



Astron
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METEOROLOGICAL OBSERVATIONS

MADE AT THE

RADCLIFFE OBSERVATORY,

OXFORD,

IN THE YEAR 1857,

UNDER THE SUPERINTENDENCE OF

MANUEL J. JOHNSON, M.A.

RADCLIFFE OBSERVER.

From the 18th Volume of the Radcliffe Observations.

18

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DIRECTION TO THE BINDER.

Illustrations P. I—VII. to follow the Introduction.

ERRATUM, IN THE PRESENT VOLUME.

P. [ix] in the first column of the table *dele* 1857.

ADDITIONAL ERRATA IN VOL. 17 (for 1856.)

P. [xxxv] line 11 from the bottom	for S 86° W	read S 76° W
7 from the bottom	“ almost due West”	ENE

METEOROLOGICAL OBSERVATIONS

IN

1857.

INTRODUCTION

TO THE

METEOROLOGICAL OBSERVATIONS.

THE Observations in the following pages have been derived principally from the Photographic Instruments, which were fully described in our 15th and 16th volumes.

The arrangement of the Register is the same as in our last volume; but instead of the measured ordinates, from our Photographic pictures, at the even hours of the day, the indications have been given in terms of the ordinary English scales. Another alteration is, the adoption of the Astronomical day commencing at *Noon*, instead of the Civil day;—this must be borne in mind in comparing the results in the present with those in preceding volumes.

The field of the lenses, with which the several Instruments are provided, did not take in quite the whole range of their variations. In the Barograph, the apex of the mercurial column was sometimes above the field of the lens, though never below it. Before the month of April, the Thermograph and Hygrograph were liable to be sometimes above, and sometimes below. This defect has now been corrected in all the Instruments. The omissions, caused by it, have in some cases been substituted by eye-observations; and in a very few instances, the recorded quantities are mere interpolations introduced, when there is reason to presume that the changes have not been irregular. All such substitutions and interpolations have been noted in the foot-notes. Other omissions which occur were occasioned by failure of the picture through blackening of the Photographic composition, or defect of illumination.

Descriptions of the Instruments, and of the general method of treatment, have for the most part been given in former volumes. Any changes or additions, which have been made during the year now under consideration, will be mentioned in the course of this Introduction.

The Photographic processes have been conducted by Mr. George Green, by whom also all the Meteorological Observations were made.

Ronald's Barograph.

No change was made in this Instrument until the end of the year, when its bearing screws were slightly lowered, in order to bring all its variations within the scope of the lens. It continues to act as well as heretofore.

The expression used for reducing the measured ordinates to terms of the ordinary Barometric scale, is the same as that given in our last volume; *viz.*

$$\text{Equivalent} = 30.409 - 0.1406n + .0126 (\beta - 29.73)$$

where n denotes recorded readings of our scale; β , the approximate reading of the Barometer at the time.

The Standard Barometer is read every day at 22^h; and the following table exhibits a comparison of its mean monthly indications with those of the Barograph at the same hour.

Month.	Barometer at 22 ^h .	Barograph at 22 ^h .	Excess of Barograph.
	inch.	inch.	inch.
January	29.595	29.594	— .001
February .....	.924	.919	— .005
March .....	.643	.643	.000
April .....	.618	.609	+ .001
May .....	.746	.742	— .004
June .....	.805	.799	— .006
July .....	.815	.806	— .009
August .....	.803	.796	— .007
September...	.746	.741	— .005
October .....	.654	.649	— .005
November ...	.916	.907	— .009
December ...	30.100	30.100	+ .002
	29.780	29.776	— .004

The hourly means at the foot of each column of the Register, furnish the following values of a , a' , a'' , &c. in the formula

$$B_x = a + a' \sin(x + A) + a'' \sin(2x + B) + a''' \sin(3x + C)$$

where B_x is the required height of the Barometer at any hour; and x , the hour angle reckoned from Noon.

It is to be remembered, in comparing the following expressions with those in our preceding volumes, that in consequence of commencing the day at Noon, instead of Midnight, the value of A is 180° less.

Month.	<i>a</i>	<i>a'</i>	<i>a''</i>	<i>a'''</i>	A	B	C
	in.				° ' "	° ' "	° ' "
January	29.589	.0101	.0071	.0041	8 32	152 14	145 0
February	29.891	.0131	.0155	.0045	186 35	155 55	201 48
March	29.651	.0141	.0120	.0050	334 2	117 16	91 54
April	29.581	.0140	.0152	.0030	193 7	163 9	266 49
May	29.732	.0109	.0102	.0020	199 56	140 58	350 32
June	29.790	.0084	.0099	.0030	187 9	139 9	6 20
July	29.792	.0071	.0099	.0036	181 13	141 40	291 48
August	29.786	.0047	.0112	.0000	204 24	134 16	.....
September...	29.724	.0014	.0142	.0024	238 8	140 37	164 3
October	29.640	.0050	.0119	.0004	260 4	161 11	159 9
November...	29.898	.0071	.0099	.0043	320 27	152 32	177 48
December ...	30.100	.0102	.0116	.0052	206 4	172 36	188 53

From these values we find the hourly excesses over the mean of the day as follows.

h.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
0	+ .007	+ .003	+ .010	- .002	+ .002	+ .006	+ .003	+ .006	+ .008	- .001	.000	- .004	0
1	+ .003	- .011	+ .007	- .014	- .003	+ .001	- .002	.000	.000	- .007	- .006	- .016	1
2	- .001	- .021	+ .001	- .023	- .010	- .005	- .006	- .006	- .009	- .013	- .011	- .023	2
3	- .002	- .025	- .005	- .027	- .016	- .012	- .010	- .012	- .015	- .016	- .011	- .024	3
4	.000	- .026	- .007	- .028	- .021	- .018	- .013	- .015	- .016	- .015	- .008	- .020	4
5	+ .005	- .021	- .005	- .024	- .022	- .020	- .015	- .015	- .013	- .011	- .001	- .013	5
6	+ .010	- .015	+ .002	- .020	- .019	- .018	- .015	- .012	- .008	- .004	+ .005	- .005	6
7	+ .014	- .009	+ .011	- .015	- .012	- .012	- .012	- .007	- .001	+ .003	+ .010	.000	7
8	+ .014	- .003	+ .019	- .004	- .004	- .003	- .006	.000	+ .006	+ .010	+ .013	+ .003	8
9	+ .012	+ .002	+ .022	+ .005	+ .005	+ .005	+ .002	+ .006	+ .010	+ .014	+ .013	+ .004	9
10	+ .008	+ .006	+ .022	+ .011	+ .010	+ .010	+ .008	+ .010	+ .012	+ .015	+ .012	+ .005	10
11	+ .003	+ .009	+ .018	+ .014	+ .012	+ .010	+ .011	+ .012	+ .012	+ .014	+ .011	+ .006	11
12	- .001	+ .010	+ .012	+ .011	+ .010	+ .007	+ .010	+ .010	+ .009	+ .009	+ .009	+ .007	12
13	- .004	+ .008	+ .006	+ .007	+ .007	+ .003	+ .005	+ .006	+ .005	+ .003	+ .006	+ .006	13
14	- .007	+ .003	.000	+ .002	+ .003	- .001	- .001	+ .001	- .001	- .003	.000	+ .005	14
15	- .010	- .002	- .007	- .002	.000	- .003	- .006	- .003	- .008	- .007	- .006	+ .001	15
16	- .014	- .005	- .013	- .001	.000	- .002	- .007	- .006	- .012	- .008	- .012	- .001	16
17	- .017	- .004	- .019	+ .005	+ .002	+ .001	- .004	- .006	- .013	- .007	- .016	- .001	17
18	- .017	+ .003	- .024	+ .012	+ .006	+ .005	+ .002	- .004	- .011	- .003	- .014	+ .002	18
19	- .013	+ .012	- .024	+ .022	+ .009	+ .008	+ .009	+ .001	- .004	+ .002	- .009	+ .009	19
20	- .007	+ .021	- .020	+ .025	+ .011	+ .009	+ .013	+ .005	+ .004	+ .006	- .002	+ .015	20
21	+ .001	+ .026	- .011	+ .024	+ .011	+ .010	+ .014	+ .010	+ .012	+ .008	+ .004	+ .019	21
22	+ .007	+ .025	- .002	+ .018	+ .010	+ .010	+ .012	+ .011	+ .016	+ .008	+ .008	+ .016	22
23	+ .009	+ .016	+ .006	+ .009	+ .007	+ .009	+ .018	+ .010	+ .014	+ .004	+ .006	+ .008	23

Combining the above with the corresponding values in 1855—56 (*R. O. Vol. xvii. p. [vi]*), we have the mean of three years as follows.

HORARY VARIATIONS OF THE BAROMETER FROM THE MEAN OF THE DAY,
FROM THREE YEARS' OBSERVATION.

Hour.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Hour.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	
0	+ .005	+ .006	+ .006	+ .003	- .004	+ .005	0.00	+ .004	+ .006	.000	+ .001	+ .005	0
1	.000	- .004	- .001	- .007	- .008	+ .002	- .005	- .002	- .003	- .006	- .006	- .005	1
2	- .006	- .014	- .009	- .016	- .013	- .004	- .009	- .007	- .011	- .012	- .012	- .014	2
3	- .007	- .018	- .013	- .020	- .017	- .007	- .012	- .012	- .017	- .014	- .012	- .017	3
4	- .005	- .019	- .014	- .023	- .018	- .011	- .014	- .014	- .019	- .014	- .009	- .016	4
5	+ .004	- .016	- .011	- .022	- .017	- .013	- .014	- .013	- .018	- .008	- .004	- .013	5
6	+ .005	- .010	- .005	- .019	- .015	- .013	- .013	- .011	- .015	- .001	+ .002	- .008	6
7	+ .008	- .004	+ .002	- .014	- .009	- .007	- .009	- .006	- .010	+ .005	+ .007	- .004	7
8	+ .009	+ .002	+ .010	- .005	- .003	.000	- .004	- .001	- .003	+ .014	+ .009	- .002	8
9	+ .008	+ .005	+ .013	+ .003	+ .005	+ .007	+ .003	+ .003	+ .002	+ .017	+ .010	.000	9
10	+ .007	+ .007	+ .015	+ .010	+ .010	+ .012	+ .009	+ .008	+ .007	+ .016	+ .011	+ .002	10
11	+ .005	+ .006	+ .013	+ .013	+ .013	+ .009	+ .011	+ .009	+ .010	+ .011	+ .009	+ .003	11
12	+ .003	+ .005	+ .011	+ .012	+ .013	+ .005	+ .010	+ .008	+ .011	+ .007	+ .008	+ .006	12
13	+ .001	+ .003	+ .007	+ .008	+ .010	.000	+ .006	+ .005	+ .008	+ .001	+ .004	+ .005	13
14	- .001	.000	+ .002	+ .003	+ .006	- .006	+ .001	+ .001	+ .004	- .005	.000	+ .004	14
15	- .006	- .003	- .002	- .002	+ .003	- .009	- .003	- .002	.000	- .008	- .005	.000	15
16	- .011	- .006	- .008	- .004	+ .001	- .009	- .006	- .004	- .004	- .009	- .011	- .004	16
17	- .014	- .005	- .010	.000	+ .003	- .003	- .003	- .003	- .004	- .008	- .013	- .005	17
18	- .014	- .002	- .010	+ .005	+ .004	+ .003	+ .002	- .001	- .002	- .006	- .011	- .003	18
19	- .009	+ .006	- .008	+ .013	+ .008	+ .006	+ .008	+ .003	+ .003	- .002	- .004	+ .004	19
20	- .002	+ .012	- .003	+ .018	+ .009	+ .009	+ .010	+ .007	+ .010	+ .003	+ .003	+ .012	20
21	+ .006	+ .017	+ .002	+ .019	+ .008	+ .010	+ .011	+ .010	+ .014	+ .006	+ .007	+ .017	21
22	+ .009	+ .020	+ .007	+ .018	+ .007	+ .009	+ .009	+ .010	+ .016	+ .007	+ .011	+ .019	22
23	+ .009	+ .014	+ .008	+ .011	+ .002	+ .008	+ .008	+ .008	+ .010	+ .005	+ .007	+ .013	23

The hour of minimum and maximum may be found from the expression,

$$o = a' \cos (x + A) + 2a'' \cos (2x + B) + 3a''' \cos (3x + C).$$

But we have adopted the process of graphic projection, which, by adopting a large scale, has been found sufficiently accurate for the purpose.

The several daily epochs of minimum and maximum in 1857 were as follows:

Month.	Hours from Noon.			
	Min.	Max.	Min.	Max.
	h.	h.	h.	h.
January	3.0	7.5	17.5	23.0
February	3.5	12.0	16.5	21.5
March	4.0	9.5	18.5	0.0
April	4.5	11.0	15.3	20.3
May	4.8	11.0	15.5	20.3
June	5.0	10.5	15.3	21.5
July	5.5	11.3	15.5	21.0
August	4.5	11.0	16.5	22.0
September...	3.6	10.5	17.0	22.3
October	3.0	10.0	16.0	21.5
November ...	2.5	9.0	17.2	22.3
December ...	2.8	12.0	16.5	21.0
Year	3.90	10.44	16.44	21.72
Winter...	3.10	10.50	16.83	21.83
Spring ...	4.43	10.50	16.43	21.53
Summer .	5.00	10.93	15.77	21.50
Autumn .	3.03	9.83	16.73	22.03

Combining the above with the corresponding epochs in 1855—56 (*R. O. Vol. xvii. p. [vii]*), we have the mean of three years, as follows.

Month.	Hours from Noon.			
	Min.	Max.	Min.	Max.
	h.	h.	h.	h.
January	3.0	8.0	17.4	22.3
February	3.6	11.0	16.5	21.8
March	3.8	10.0	17.3	22.8
April	4.6	11.3	15.8	21.0
May	4.3	11.2	16.0	20.4
June	5.6	10.0	15.4	21.2
July	4.5	11.0	16.0	21.0
August	4.4	11.0	16.2	21.7
September...	4.3	11.3	16.6	21.8
October	3.5	9.3	16.0	21.8
November ...	2.7	11.3	16.9	22.1
December ...	3.6	12.0	17.0	21.7
Year	3.99	10.62	16.42	21.63
Winter...	3.40	10.33	16.97	21.93
Spring ...	4.23	10.83	16.38	21.40
Summer .	4.83	10.67	15.87	21.30
Autumn .	3.50	10.63	16.50	21.90

The quarterly results given above exhibit very clearly the nearer approach to mid-day of the several epochs, in Winter than in Summer; a circumstance which has been noticed by many writers.

The extent of the oscillations, in 1857, is shown in the following table, where is given; 1° the range between consecutive maxima and minima, beginning with the oscillation between 22^h-4^h ; 2° the mean of the oscillations between from 22^h-10^h , and from 10^h-22^h ; 3° the mean of all the oscillations in the day.

EXTENT OF THE DAILY OSCILLATIONS OF THE BAROMETER IN 1857.

Month.	Hours from Noon.						
	Oscillations between				Mean of the Oscillations.		Mean of all the Oscillations.
	22^h-4^h	4^h-10^h	10^h-16^h	16^h-22^h	22^h-10^h	10^h-22^h	
1857.	in.	in.	in.	in.	in.	in.	in.
January .....	.011	.017	.032	.026	.0140	.0290	.0215
February .....	.053	.036	.016	.033	.0445	.0245	.0345
March .....	.017	.029	.046	.034	.0230	.0400	.0315
April .....	.054	.042	.017	.029	.0480	.0230	.0355
May .....	.033	.034	.012	.011	.0335	.0115	.0225
June .....	.030	.031	.014	.013	.0305	.0135	.0220
July .....	.029	.026	.018	.021	.0275	.0195	.0235
August .....	.027	.028	.018	.017	.0275	.0175	.0225
September...	.032	.028	.025	.029	.0300	.0270	.0285
October .....	.025	.031	.023	.017	.0280	.0200	.0240
November ...	.021	.025	.029	.025	.0230	.0270	.0250
December ...	.043	.031	.008	.020	.0370	.0140	.0255
Year .....	.0313	.0298	.0215	.0229	.0305	.0222	.0263
Winter...	.0357	.0280	.0187	.0263	.0318	.0225	.0272
Spring ...	.0347	.0350	.0250	.0247	.0348	.0240	.0294
Summer .	.0287	.0283	.0167	.0170	.0285	.0168	.0223
Autumn .	.0260	.0280	.0257	.0237	.0270	.0247	.0258

Combining the above with the corresponding oscillations in 1855-56, we have for the mean of 3 years.

EXTENT OF THE DAILY OSCILLATIONS OF THE BAROMETER, MEAN
OF 3 YEARS.

Month.	Hours from Noon.						
	Oscillations between				Mean of the Oscillations.		Mean of all the Oscillations.
	22 ^h —4 ^h	4 ^h —10 ^h	10 ^h —16 ^h	16 ^h —22 ^h	22 ^h —10 ^h	10 ^h —22 ^h	
1857.	in.	in.	in.	in.	in.	in.	in.
January .....	.018	.020	.028	.025	.0190	.0265	.0228
February .....	.035	.024	.014	.025	.0295	.0195	.0245
March .....	.025	.031	.031	.023	.0280	.0270	.0275
April .....	.044	.037	.017	.025	.0405	.0210	.0308
May .....	.029	.034	.013	.008	.0315	.0105	.0210
June .....	.024	.027	.022	.019	.0255	.0205	.0230
July .....	.026	.026	.017	.017	.0260	.0170	.0215
August .....	.024	.026	.016	.014	.0250	.0150	.0200
September...	.035	.027	.017	.020	.0310	.0185	.0248
October .....	.024	.030	.022	.016	.0270	.0190	.0230
November ...	.023	.025	.026	.025	.0240	.0255	.0248
December ...	.038	.025	.011	.024	.0315	.0175	.0245
Year .....	.0288	.0277	.0195	.0201	.0282	.0198	.0240
Winter...	.0303	.0230	.0177	.0247	.0267	.0212	.0240
Spring ...	.0327	.0340	.0203	.0187	.0334	.0195	.0265
Summer.	.0247	.0263	.0183	.0167	.0255	.0175	.0215
Autumn .	.0273	.0273	.0217	.0203	.0273	.0210	.0242

Comparing together the quarterly results, at the foot of this table, it will be perceived, that the oscillations from 22^h—10^h are the greatest throughout the year.

The elasticity of vapour deduced from the 2d edition of Mr. Glaisher's *Hygrometrical Tables*, with the corresponding observations of the Thermograph and Hygograph, are,

Month.	Hours from Noon.											
	0	2	4	6	8	10	12	14	16	18	20	22
January .....	.224	.223	.219	.204	.202	.202	.204	.207	.201	.193	.195	.202
February .....	.228	.231	.231	.227	.224	.215	.209	.199	.193	.188	.199	.217
March.....	.248	.249	.257	.256	.247	.246	.249	.244	.238	.234	.248	.259
April.....	.244	.246	.252	.250	.242	.246	.239	.238	.236	.233	.241	.247
May .....	.316	.325	.328	.318	.305	.297	.288	.276	.277	.290	.311	.327
June .....	.403	.399	.401	.404	.401	.391	.382	.371	.367	.378	.399	.406
July .....	.401	.403	.406	.416	.412	.410	.403	.399	.401	.410	.416	.413
August.....	.470	.465	.470	.467	.479	.462	.469	.464	.453	.451	.453	.473
September....	.427	.421	.416	.419	.413	.406	.407	.404	.396	.386	.400	.422
October .....	.366	.367	.365	.360	.356	.339	.335	.331	.330	.334	.336	.357
November ....	.296	.303	.301	.289	.281	.276	.272	.266	.265	.269	.277	.286
December ....	.281	.281	.279	.281	.277	.271	.267	.265	.264	.262	.267	.274
Mean	3253	3261	3271	3243	3199	3134	3103	3053	3018	3023	3118	3236

The mean values are very nearly represented by the expression,
 $V_x = 0.316 + .0128 \sin(x + 41^\circ 53') + .0019 \sin(2x + 121^\circ 58') + .0020 \sin(3x + 189^\circ 28')$

Subtracting these quantities from the corresponding Atmospheric Pressures, we obtain the following table of the Pressure of Dry Air.

Month.	Hours from Noon.											
	0	2	4	6	8	10	12	14	16	18	20	22
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
January...	29.372	.365	.370	.395	.401	.395	.384	.375	.374	.379	.387	.394
February ..	.666	.639	.634	.649	.664	.682	.692	.700	.693	.706	.713	.699
March .....	.413	.403	.357	.397	.423	.427	.414	.413	.400	.393	.383	.390
April .....	.334	.312	.301	.310	.335	.346	.353	.345	.344	.360	.365	.352
May .....	.418	.397	.383	.395	.423	.445	.454	.459	.455	.448	.432	.415
June .....	.393	.386	.371	.368	.386	.409	.415	.418	.421	.417	.401	.394
July .....	.394	.383	.373	.361	.374	.390	.399	.392	.384	.384	.389	.391
August ....	.322	.315	.301	.307	.307	.334	.327	.323	.327	.331	.338	.324
September	.305	.294	.292	.297	.317	.330	.326	.319	.316	.327	.328	.318
October ...	.273	.260	.260	.276	.294	.316	.314	.306	.302	.303	.310	.291
November	.602	.584	.589	.614	.630	.634	.635	.632	.621	.615	.619	.620
December	.815	.796	.801	.814	.826	.834	.840	.840	.837	.840	.848	.842
Mean	29.442	.428	.419	.432	.448	.462	.463	.460	.456	.459	.459	.453

The mean of all the bi-horary results during the year, is nearly represented by the expression,

$$B_n = 29.4484 + 0.0171 \sin(x + 223.16^\circ) + 0.0093 \sin(2x + 154.30^\circ)$$

The term involving $3x$ is insensible.

The bi-horary values resulting from the above expression, are as follows,

	in.
Noon 0 =	29.4409
2 =	.4266
4 =	.4222
6 =	.4318
8 =	.4489
10 =	.4618
12 =	.4642
14 =	.4594
16 =	.4556
18 =	.4568
20 =	.4587
22 =	.4540

The cistern of the Barograph is about 210 feet above the sea-level; which gives the reduction of its indications to that plane = + 0.231 inch.

Thermograph and Hygograph.

During the months of January, February, and March, the same instruments were used as in preceding years. But they were defective, inasmuch as they failed to mark very high or very low temperatures, such indications exceeding the field of the lenses. It was also difficult to arrange the illumination, so that it might be diffused over the whole field.

I was therefore induced to attempt another construction, and for this I chose the ingenious principle of the divided column, which has been very successfully adopted by Professor Phillips in his self-registering Thermometer.

After the Thermometer tubes have been filled with the proper quantity of mercury, a little air is admitted and another column is added about 4 inches in length, (the width of our paper.) In consequence of the admitted air, this latter column does not unite with the main column, but a small interstice is left between them, through which light passes.

The two Instruments are placed side by side, about $\frac{1}{2}$ an inch from each other on a brass frame, having a long narrow opening large enough to expose the columns of mercury, and at the same time shutting out as much as possible the diffused light through the solid part of the tubes.

This frame is made to slide, between grooves, on another brass frame, with its central part cut away, which is screwed to the back of the Camera. The gas-flame and the condenser are placed behind the instrument thus fixed, and the light passing through the small interstices between the columns of mercury, produces on the paper the impression of two lines, which represent the indications of the respective instruments. But as they are half an inch apart, these indications would not appear coincident in respect to time. In order to make them so, the image of the line of the Hygrograph is received, before it reaches the paper, on a reflector, which deflects it into the required position. The zeros from which the indications are measured, are two or three small holes perforated in the carrying frame of the Thermometers, in the interval between them. The light passing through these holes produces the impression of two straight lines on the paper. Two such zeros are sufficient, one at about 30° , the other at about 60° .

One advantage of this construction is, that by sliding the Thermometers up or down, any part of them may be brought within the field of the lens. Thus by setting the instrument so that the lens in Winter may take in the range from about 15° to 60° , and in Summer from 45° to 90° , it is seldom that we lose any of the indications of the instrument; and even when there is any chance of this being the case, the position of the instrument may be altered in a few minutes, without any further injury to the current record than breaking the continuity of the several lines at the spot where the alteration was made, which for the purposes of measurement is of no consequence.

Another great advantage is, that we obtain the indications of both instruments on the same paper.

The disadvantages are,

1°. In sudden large variations of temperature we are liable to lose the intermediate marking between the highest and lowest indication. This, however, is not often the case.

2°. There is some difficulty in adjusting the reflector for deflecting the image of the Hygrograph, so that it may reflect equally throughout the range of the field of the lens. Most of the failures, which will be perceived in the daily records, are due to this circumstance.

The scale and the position of the zeros were determined by comparing the measured ordinates with the contemporary indications of the Standard Dry and Wet Thermometers, in the manner described in our 15th Volume, (p. [xxxii]).

Observations of the Standards are made daily at 10^h and 22^h; and the difference between their indications and those of the Thermograph and Hygrograph at the same hours, are given at the bottom of each page, as corrections to be applied to the latter instruments.

Indications of the Thermograph.

The two-hourly indications of the Thermograph furnish the following values in the formula

$$T_x = a + a' \sin (x + A) + \&c.$$

Month.	<i>a</i>	<i>a'</i>	<i>a''</i>	<i>a'''</i>	A	B	C
	°	°	°	°	° /	° /	° /
January	37.4	1.55	0.98	0.35	43 55	37 35	19 18
February.....	40.7	3.86	1.46	0.35	39 16	27 27	2 44
March.....	42.2	3.60	1.00	0.23	44 42	46 1	162 4
April	45.5	5.77	0.98	0.41	49 27	58 2	201 22
May	52.5	7.66	0.45	0.81	47 7	113 25	204 26
June	61.0	8.45	0.22	0.29	52 54	122 6	281 0
July	62.8	6.88	0.33	0.44	52 48	45 0	226 33
August	63.6	7.50	1.34	0.28	49 12	53 35	197 22
September ...	58.3	5.51	1.34	0.18	51 7	45 36	174 48
October	52.4	3.82	1.24	0.20	51 0	45 0	125 0
November....	45.5	2.76	0.99	0.53	56 0	44 27	48 49
December	45.3	1.99	0.94	0.47	44 50	49 40	47 52

From these expressions we obtain the following horary excesses from the mean temperature of the day.

Hour.	Jan.	Feb.	Mch.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Hour.
0	+ 1.8	+ 3.1	+ 3.2	+ 5.1	+ 5.7	+ 6.7	+ 5.4	+ 6.8	+ 5.3	+ 4.0	+ 3.4	+ 2.5	0
1	2.6	4.6	3.9	5.8	6.3	7.8	6.3	7.8	6.2	4.7	4.1	3.1	1
2	2.8	5.4	4.2	6.2	6.8	8.3	6.8	8.3	6.6	4.8	4.1	3.1	2
3	2.5	5.4	4.1	6.1	7.2	8.5	7.1	8.1	6.3	4.5	3.4	2.5	3
4	1.8	4.6	3.7	5.6	7.3	7.9	6.8	7.3	5.5	3.7	2.3	1.7	4
5	0.9	3.3	3.0	4.7	6.8	6.6	5.8	5.9	4.2	2.7	1.3	0.8	5
6	+ 0.2	2.0	2.2	3.3	5.5	4.9	4.2	4.1	2.7	1.7	+ 0.5	0.4	6
7	- 0.3	+ 0.8	1.2	+ 1.7	3.6	2.8	2.3	2.1	+ 1.0	+ 0.6	0.0	+ 0.2	7
8	0.4	- 0.1	+ 0.2	0.0	+ 1.3	+ 0.8	+ 0.2	+ 0.1	- 0.4	- 0.4	- 0.4	0.0	8
9	0.4	0.7	- 0.4	- 1.3	- 0.8	- 1.2	- 1.6	- 1.6	1.7	1.2	0.7	- 0.1	9
10	0.5	1.0	0.8	2.3	2.6	3.1	3.1	2.9	2.4	1.6	1.1	0.4	10
11	0.5	1.4	1.2	3.0	3.9	4.7	4.1	3.8	3.0	2.1	1.6	0.8	11
12	0.6	1.8	1.8	3.4	4.9	6.3	4.9	4.5	3.3	2.3	2.0	1.0	12
13	0.7	2.2	2.0	4.0	5.7	7.6	5.6	5.2	3.6	2.3	2.2	1.3	13
14	0.8	2.5	2.3	4.4	6.7	8.4	6.2	5.9	4.0	2.4	2.1	1.3	14
15	0.9	2.8	2.7	5.1	7.6	8.7	6.6	6.6	4.4	2.7	2.0	1.3	15
16	1.0	3.0	3.2	5.6	8.0	8.3	6.6	7.0	4.8	3.1	1.9	1.4	16
17	1.2	3.2	3.6	5.6	7.7	7.0	5.9	7.0	4.9	3.4	1.9	1.6	17
18	1.4	3.3	3.6	5.0	6.3	5.2	4.7	6.2	4.6	3.5	1.8	1.8	18
19	1.6	3.2	3.1	3.6	4.1	3.0	2.9	4.7	3.7	3.0	1.8	1.8	19
20	1.5	2.9	2.1	- 1.7	- 1.4	- 0.8	- 0.9	- 2.4	2.2	2.0	1.6	1.8	20
21	1.1	2.0	- 0.8	+ 0.3	+ 1.2	+ 1.4	+ 1.1	0.0	- 0.2	- 0.5	- 0.7	- 1.1	21
22	- 0.4	- 0.5	+ 0.3	2.3	3.3	3.4	2.9	+ 2.6	+ 1.8	+ 1.0	+ 0.6	0.0	22
23	+ 0.7	+ 1.2	+ 1.7	+ 3.9	+ 4.7	+ 5.2	+ 4.3	+ 4.8	+ 3.7	+ 2.8	+ 2.1	+ 1.4	23

Combining the above, with the corresponding values obtained in 1855—56, (*R. O. Vol. xvii. p. [xiii]*), we have,

HORARY VARIATIONS OF THE THERMOMETER FROM THE MEAN OF THE DAY,
FROM THREE YEARS' OBSERVATION.

Hour.	Jan.	Feb.	Mch.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Hour.
0	+ 1.9	+ 3.0	+ 3.6	+ 5.8	+ 5.4	+ 5.9	+ 5.3	+ 5.9	+ 6.0	+ 4.0	+ 3.1	+ 2.0	0
1	2.9	4.0	5.0	6.5	6.0	6.8	6.2	6.8	6.7	4.7	3.8	2.4	1
2	3.1	4.4	5.5	6.9	6.5	7.4	6.8	7.6	6.9	5.0	3.9	2.6	2
3	2.6	4.3	5.4	6.6	6.7	7.6	7.1	7.6	6.5	4.6	3.1	2.0	3
4	2.1	3.6	4.9	6.1	6.6	7.5	6.9	7.3	5.7	3.8	2.2	1.5	4
5	1.1	2.7	3.8	4.9	5.9	6.5	5.9	6.1	4.5	2.6	1.2	0.9	5
6	+ 0.4	1.7	2.7	3.6	4.6	5.0	4.7	4.6	3.0	1.4	+ 0.2	0.3	6
7	- 0.2	+ 0.7	1.5	2.0	2.8	2.9	2.6	2.2	+ 1.3	+ 0.5	- 0.6	+ 0.1	7
8	0.4	0.0	+ 0.2	+ 0.1	+ 1.0	+ 0.9	+ 0.5	+ 0.6	- 0.3	- 0.8	1.0	- 0.1	8
9	0.6	- 0.7	- 0.6	- 1.1	- 0.8	- 1.0	- 1.3	- 1.2	1.6	1.5	1.2	0.2	9
10	0.7	1.2	1.3	2.4	2.3	2.8	3.0	2.6	2.7	1.8	1.4	0.3	10
11	0.7	1.5	1.9	3.2	3.6	4.2	4.0	3.5	3.1	2.2	1.4	0.5	11
12	0.8	1.7	2.4	3.7	4.6	5.5	4.8	4.2	3.5	2.3	1.5	0.8	12
13	0.8	2.0	2.8	4.3	5.6	6.5	5.5	5.1	3.8	2.4	1.6	0.8	13
14	0.9	2.2	3.2	4.9	6.5	7.5	6.1	5.8	4.0	2.6	1.7	0.9	14
15	1.0	2.3	3.7	5.5	7.0	7.8	6.5	6.5	4.5	2.8	1.7	0.9	15
16	1.1	2.5	4.3	6.1	7.2	7.8	6.6	7.1	4.9	3.0	1.8	0.9	16
17	1.2	2.7	4.5	6.0	6.6	6.8	5.9	7.0	4.9	3.1	1.9	1.1	17
18	1.5	2.8	4.3	5.3	5.4	5.1	4.8	6.3	4.7	3.1	1.9	1.3	18
19	1.6	2.6	3.6	3.6	3.4	3.0	3.0	4.4	3.8	2.7	1.9	1.4	19
20	1.6	2.2	2.5	- 1.8	- 1.1	- 0.7	- 1.0	- 2.3	- 2.2	1.8	1.7	1.5	20
21	1.0	- 1.1	- 0.8	+ 0.5	+ 1.1	+ 1.2	+ 0.9	+ 0.1	+ 0.1	- 0.4	- 0.7	1.0	21
22	- 0.3	+ 0.2	+ 0.6	2.7	3.0	3.1	2.8	2.5	2.2	+ 1.0	+ 0.5	- 0.1	22
23	+ 0.9	+ 1.5	+ 2.4	+ 4.3	+ 4.5	+ 4.7	+ 4.0	+ 4.3	+ 4.2	+ 2.6	+ 1.9	+ 1.1	23

The hours of maximum, minimum, and mean temperature in each month, are as follows.

	Hours from Noon.			
	Max.	Min.	Mean.	
	h.	h.	h.	h.
January	1.8	19.5	6.3	22.4
February.....	2.5	18.0	7.8	22.4
March.....	2.0	17.5	8.4	21.8
April	2.2	16.5	8.0	20.8
May	4.0	16.0	8.6	19.8
June	3.0	15.0	8.4	20.4
July	3.0	15.5	8.1	20.4
August	2.2	16.5	8.4	21.0
September ...	2.0	16.8	7.6	21.2
October	1.9	17.8	7.6	21.3
November ...	1.5	13.5	6.8	21.5
December	1.5	19.0	8.0	22.0
Year.....	2.3	16.8	7.9	21.3
Winter...	1.9	18.8	7.6	22.3
Spring ...	2.7	16.7	8.3	20.8
Summer .	2.7	15.7	8.3	20.6
Autumn .	1.8	16.0	7.3	21.3

Combining the above with the corresponding values in 1855—56 (*R. O. Vol. xvi. p. [xxi]*), the result of 3 years' observation is as follows.

	Hours from Noon.			
	Max.	Min.	Mean.	
	h.	h.	h.	h.
January	1.8	19.2	6.5	22.2
February.....	2.5	18.0	8.0	21.8
March.....	2.1	17.0	8.3	21.6
April	2.0	16.4	8.0	20.8
May	3.0	16.0	8.6	19.6
June	3.2	15.2	8.4	20.4
July	3.0	15.5	8.3	20.5
August	2.5	16.5	8.4	21.0
September ...	2.0	16.8	7.8	21.2
October	2.0	17.5	7.4	21.3
November....	1.6	18.5	6.2	21.5
December	2.0	20.0	8.0	22.0
Year.....	2.3	17.2	7.8	21.2
Winter...	2.2	19.1	7.5	22.0
Spring ...	2.7	16.5	8.3	20.7
Summer .	3.1	15.6	8.4	20.6
Autumn..	1.9	17.6	7.1	21.3

Indications of the Hygrograph.

The values of a , a' , a'' , &c. in the expression, $H_x = a + a' \sin(x + \Lambda)$ &c. are as follows.

Month.	a	a'	a''	a'''	Λ	B	C
	°	°	°	°	° ' ,	° ' ,	° ' ,
January	36.5	1.31	0.99	0.28	46 45	46 5	45 0
February.....	38.7	3.08	0.92	0.11	34 17	42 40	45 0
March.....	41.6	2.18	0.37	0.31	44 45	64 21	216 15
April	42.8	3.26	0.13	0.33	47 41	57 49	203 58
May	48.8	4.54	0.40	0.38	48 46	155 15	235 37
June	56.2	4.26	0.47	0.18	52 29	169 46	248 12
July	57.6	3.01	0.24	0.28	52 31	205 56	225 0
August	59.9	3.45	0.63	0.28	48 20	79 26	205 1
September...	55.7	2.98	0.74	0.29	48 25	62 30	166 45
October	50.7	2.58	0.66	0.19	49 22	49 21	135 0
November ...	44.5	2.18	0.63	0.27	53 47	43 11	37 34
December	44.0	1.47	0.54	0.30	42 36	52 2	70 33

From these expressions are deduced the following hourly deviations from the mean of the day.

Hr.	Jan.	Feb.	Mch.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Hr.
	°	°	°	°	°	°	°	°	°	°	°	°	
0	+ 1.9	+ 2.4	+ 1.7	+ 2.7	+ 3.2	+ 3.3	+ 2.1	+ 3.1	+ 3.0	+ 2.6	+ 2.4	+ 1.7	0
1	2.4	3.3	1.9	3.1	3.6	3.6	2.3	3.4	3.2	3.0	2.9	2.0	1
2	2.4	3.7	2.2	3.3	4.0	3.8	2.6	3.5	3.3	3.0	3.0	2.0	2
3	2.0	3.7	2.4	3.4	4.3	3.8	2.8	3.5	3.1	2.8	2.6	1.7	3
4	1.3	3.3	2.3	3.3	4.2	3.7	2.7	3.3	2.7	2.4	2.0	1.2	4
5	+ 0.6	2.6	2.0	2.8	3.9	3.2	2.7	2.6	2.2	1.9	1.3	0.8	5
6	0.0	1.8	1.5	2.1	3.1	2.6	2.1	1.9	1.6	1.3	+ 0.6	0.6	6
7	- 0.3	1.1	+ 0.8	1.2	2.0	1.7	1.3	1.0	+ 0.6	0.7	0.0	0.4	7
8	0.4	+ 0.5	0.0	+ 0.1	+ 0.8	+ 0.8	+ 0.4	+ 0.6	0.0	+ 0.1	- 0.2	+ 0.2	8
9	0.4	0.0	- 0.4	- 0.8	- 0.3	- 0.2	- 0.5	- 0.4	- 0.7	- 0.6	0.5	0.0	9
10	0.4	- 0.4	0.6	1.4	1.2	1.3	1.2	1.3	1.2	1.1	0.8	- 0.3	10
11	0.4	0.8	0.7	1.7	2.1	2.2	1.8	1.5	1.5	1.4	1.2	0.6	11
12	0.4	1.2	1.0	1.9	2.9	3.1	2.3	1.8	1.6	1.6	1.5	0.8	12
13	0.4	1.6	1.2	2.1	3.7	3.6	2.7	2.2	1.8	1.7	1.7	1.0	13
14	0.5	2.0	1.5	2.4	4.5	4.5	3.0	2.6	2.0	1.8	1.8	1.0	14
15	0.6	2.4	2.1	2.9	5.0	4.8	3.2	3.2	2.3	2.0	1.8	1.0	15
16	0.8	2.7	2.3	3.2	5.0	4.6	3.1	3.5	2.7	2.2	1.7	1.1	16
17	1.1	3.0	2.4	3.3	4.5	3.8	2.7	3.5	3.0	2.4	1.6	1.4	17
18	1.4	3.1	2.2	3.0	3.4	2.7	1.9	3.2	2.9	2.3	1.5	1.4	18
19	1.6	2.9	1.5	2.2	2.1	- 1.4	- 1.0	2.2	2.3	2.0	1.4	1.5	19
20	1.4	2.3	- 0.6	- 1.1	- 0.4	0.0	0.0	- 1.4	- 1.3	1.4	1.0	1.2	20
21	0.9	1.4	+ 0.1	+ 0.2	+ 1.1	+ 1.2	+ 0.9	+ 0.3	0.0	- 0.2	- 0.4	- 0.7	21
22	- 0.4	- 0.1	0.6	1.3	2.0	2.1	1.5	1.5	+ 1.3	+ 0.9	+ 0.5	+ 0.2	22
23	+ 1.0	+ 1.2	+ 1.1	+ 2.1	+ 2.7	+ 2.8	+ 1.9	+ 2.5	+ 2.3	+ 1.8	+ 1.5	+ 1.0	23

Combining the above with the corresponding values in 1855-56 (*R. O. Vol. xvii. p. [xvi]*), we obtain the following table.

HORARY VARIATIONS OF THE HYGROGRAPH FROM THE MEAN OF THE DAY,
FROM THREE YEARS' OBSERVATION.

Hour.	Jan.	Feb.	Mch.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Hour.
0	+ 1.6	+ 2.2	+ 2.4	+ 3.0	+ 2.9	+ 2.8	+ 2.2	+ 2.8	+ 3.0	+ 2.8	+ 2.1	+ 1.2	0
1	2.0	2.8	2.8	3.4	3.2	3.2	2.6	3.1	3.3	2.9	2.6	1.9	1
2	2.2	3.1	3.3	3.6	3.6	3.5	2.9	3.3	3.4	3.0	2.7	2.0	2
3	1.9	3.0	3.0	3.6	3.6	3.7	3.1	3.3	3.4	2.8	2.3	1.8	3
4	1.6	2.6	2.8	3.5	3.5	3.5	3.2	3.2	3.1	2.3	1.8	1.3	4
5	1.0	2.0	2.1	2.9	3.2	3.1	3.0	2.8	2.5	1.8	1.1	0.9	5
6	+ 0.5	1.4	1.3	2.4	2.5	2.5	2.4	2.2	1.9	1.1	+ 0.3	0.3	6
7	0.0	0.8	+ 0.5	1.3	1.7	1.6	1.6	1.3	0.9	+ 0.4	- 0.1	+ 0.1	7
8	- 0.4	+ 0.3	- 0.2	+ 0.4	+ 0.7	+ 0.6	+ 0.7	+ 0.7	+ 0.1	- 0.4	0.5	- 0.1	8
9	0.5	- 0.1	0.6	- 0.5	- 0.3	- 0.2	- 0.5	- 0.3	- 0.6	0.8	0.7	0.1	9
10	0.6	0.6	0.9	1.3	1.2	1.2	1.3	1.0	1.2	1.4	0.9	0.2	10
11	0.6	0.9	1.2	2.0	2.0	2.1	1.9	1.5	1.5	1.5	1.1	0.4	11
12	0.6	1.2	1.4	2.3	2.8	2.8	2.5	1.9	1.8	1.7	1.1	0.6	12
13	0.6	1.5	1.7	2.6	3.5	3.3	2.9	2.3	2.1	1.8	1.2	0.7	13
14	0.6	1.7	2.0	3.0	4.2	4.0	3.3	3.0	2.4	1.9	1.3	0.7	14
15	0.7	1.9	2.4	3.3	4.5	4.2	3.4	3.5	2.8	2.1	1.4	0.8	15
16	0.8	2.0	2.6	3.5	4.5	4.1	3.4	3.8	3.2	2.3	1.5	0.8	16
17	1.2	2.2	2.6	3.4	3.8	3.4	3.2	3.5	3.2	2.4	1.5	1.0	17
18	1.4	2.2	2.4	3.0	2.9	2.6	2.3	3.1	3.0	2.2	1.5	1.1	18
19	1.4	2.0	1.7	2.0	1.8	1.5	1.5	2.3	2.1	1.7	1.4	1.2	19
20	1.3	1.6	1.0	- 1.0	- 0.4	- 0.3	- 0.4	- 1.1	- 1.1	- 1.0	1.1	1.2	20
21	0.8	- 0.2	- 0.1	+ 0.3	+ 0.9	+ 0.8	+ 0.6	+ 0.3	+ 0.2	+ 0.1	- 0.4	0.9	21
22	- 0.2	+ 0.4	+ 0.7	1.4	1.8	1.7	1.2	1.4	1.4	1.2	+ 0.4	- 0.1	22
23	+ 0.8	+ 1.3	+ 1.6	+ 2.3	+ 2.5	+ 2.3	+ 1.8	+ 2.3	+ 2.3	+ 1.9	+ 1.3	+ 0.8	23

The Anemograph.

This Instrument, designed and constructed by Mr. P. Adie of the Strand, London, was fully described in our last volume, (*R. O. Vol. xvii. pp. [xvii.] &c.*)

Direction of the Wind.

The notation adopted in the Register, is in terms of the scale used for measuring the perpendicular distance between the Zero of the Photographic paper, and the indications marked upon it by the index of the wind vane. The unit of this scale is $\frac{1}{4}$ of an inch.

The requisite computations are much facilitated by this arrangement; but, in order that there may be no difficulty in referring the numbers to the ordinary notation, the equivalents, on that notation, to each unit, and the corresponding degrees of the circle, reckoned from N towards E, are given at the foot of each page; whence the intermediate values may be readily found.

The mean bi-hourly directions are given in degrees of the circle, at the foot of each column. They were found by Lambert's method, of resolving each wind into its rectangular co-ordinates, applied as follows. Let

$$\begin{aligned} A &= n \sin w + n' \sin w' + n'' \sin w'' + \&c. \\ B &= n \cos w + n' \cos w' + n'' \cos w'' + \&c. \end{aligned}$$

Where n, n', n'' , are the number of periods, during which the wind blew from the points w, w', w'' , &c. Then, θ , being the mean direction; R, the resultant of all the winds; N, the number of observations,

$$\begin{aligned} \tan \theta &= \frac{A}{B} \\ R &= \sqrt{\frac{A^2 + B^2}{N}} \end{aligned}$$

The latter value is that which we have termed "intensity." By German writers it is usually denominated "*Stärke*," which English writers render by the word "force." "Prevalence" would perhaps better express its meaning, since what it really implies is the prevalence, or weight, of the mean direction in relation to all other directions, regarded as unity. At any rate, it must not be confounded with *dynamical* force.

The following table exhibits at one view the mean monthly bi-hourly results.

Month.	Hours from Noon.											
	0	2	4	6	8	10	12	14	16	18	20	22
January....	268	267	262	245	253	258	266	267	264	254	265	263
February...	200	214	206	195	190	185	189	181	186	175	180	188
March.....	219	206	217	241	230	227	208	197	201	226	271	240
April	230	221	227	183	186	222	200	192	173	185	252	214
May	43	42	46	47	58	80	59	52	53	64	60	55
June.....	48	111	5	40	75	81	60	56	37	61	51	78
July	244	247	245	249	239	234	238	239	240	241	247	243
August.....	278	293	287	283	277	283	279	288	277	287	288	318
September.	229	226	216	209	206	203	200	198	196	198	197	195
October....	225	253	267	237	243	237	238	229	225	223	200	105
November.	54	53	47	40	31	30	28	30	53	48	43	28
December.	261	255	257	251	255	254	256	256	252	251	250	249
Mean	251	248	246	238	235	235	238	238	227	227	239	241

The annual means (in the last line) were determined by resolving the several monthly means into their rectangular co-ordinates, allowing to each a weight proportionate to its intensity, given in the Register.

Looking at the monthly results separately, there appears to be but little law pervading them. The annual means, however, indicate very distinctly a *daily periodicity*,—*retrograde* from Noon till 16^h or 18^h;—*direct*, from that time till Noon; the angle passed over being 24°. I mention this circumstance without intending to attach much weight to the observations of a single year; especially as six months' observation in 1856 fail to give any such indication.

Velocity of the Wind.

The velocity is given in English miles, each result showing, according to Dr. Robinson's theory, three times the distance passed over by the hemispherical cups.

The following table is a summary of the bi-hourly results given in our Register.

WIND'S BI-HOURLY VELOCITY IN 1857.

Month.	0-2	2-4	4-6	6-8	8-10	10-12	12-14	14-16	16-18	18-20	20-22	22-0
1857.												
January	14.3	12.6	12.0	11.9	12.1	11.4	11.5	10.9	12.1	12.0	13.6	14.5
February.....	12.3	11.5	8.4	7.2	7.0	6.2	6.0	6.5	7.2	7.8	9.0	11.0
March.....	15.9	16.0	13.2	11.0	10.3	8.9	9.6	9.0	10.6	11.5	13.9	16.7
April	12.9	12.8	11.7	8.5	7.0	6.5	6.5	5.8	7.0	9.0	10.1	11.3
May	12.7	12.4	12.4	8.4	6.6	4.1	4.4	4.7	5.9	9.0	11.4	12.3
June	11.8	11.2	10.1	6.9	5.6	5.2	5.1	5.4	6.1	8.8	11.4	11.3
July	14.7	15.1	13.9	10.6	7.3	5.8	6.7	7.3	7.6	10.0	11.7	12.9
August	9.0	9.0	8.1	5.6	4.1	3.8	3.0	3.5	3.3	5.1	7.3	8.2
September ...	8.3	8.1	5.6	4.2	3.9	3.4	3.5	3.7	3.8	5.2	6.2	8.5
October	9.8	8.8	7.4	6.7	6.0	5.7	5.8	5.9	6.2	6.0	8.2	9.6
November ...	8.6	7.0	6.2	6.5	5.0	5.5	5.1	5.2	5.4	4.9	6.2	8.8
December	12.2	11.6	9.2	9.3	8.9	9.8	9.0	8.3	9.0	9.3	9.6	11.2
Mean bi-hourly Velocity. }	11.88	11.34	9.85	8.07	6.98	6.36	6.35	6.35	7.02	8.22	9.88	11.36
Relative bi-hourly Velocity. }	1.376	1.312	1.141	0.935	0.810	0.737	0.735	0.735	0.813	0.952	1.145	1.316

The relative velocity is represented nearly by

$$V_x = 1.0 + 0.329 \sin(x + 92^\circ) + 0.053 \sin(2x + 91^\circ)$$

an expression agreeing very nearly with that we found from 6 months' observation in 1856, which (after subtracting 180° from the subsidiary angle of the second term, for the difference in the commencement of the day) was,

$$V_x = 1.0 + 0.335 \sin(x + 86^\circ) + 0.072 \sin(2x + 99^\circ)$$

The mean bi-hourly velocity, according to this table, is 8.64 miles. Multiplying this quantity by the relative bi-hourly values deduced from the above formula, we obtain the velocities given in the second column of the following table.

Hours from Noon.	Wind's Velocity.		Excess of Cal- culation.
	Calcu- lated.	Observed.	
	Miles.	Miles.	
0— 2	11.90	11.88	+ .02
2— 4	11.27	11.34	— .07
4— 6	9.72	9.85	— .13
6— 8	8.08	8.07	+ .01
8—10	6.90	6.98	— .08
10—12	6.37	6.36	+ .01
12—14	6.25	6.35	— .10
14—16	6.44	6.35	+ .09
16—18	7.05	7.02	+ .03
18—20	8.27	8.22	+ .05
20—22	9.91	9.88	+ .03
22— 0	11.37	11.36	+ .01
Probable Error \pm .045			

These results, like those of last year, are derived from observations made in a position where the elevation of the Anemograph above the ground did not exceed 22 feet, and where, though the Instrument was equally exposed on all sides, the force of the wind is much modified by proximity to the soil, and by the presence of buildings in the immediate neighbourhood.

Having obtained permission from the Board of Radcliffe Trustees to erect a more suitable apartment on the Tower of the Observatory, which is about 110 feet above the ground; before removing the Instrument, I placed there a small Anemometer of Professor Smyth's construction, which was regularly compared with a similar one at the lower station. The result of these comparisons was as follows.

COMPARISON OF THE VELOCITY OF THE WIND AT THE STATION 22 FEET
AND ON THE TOWER 110 FEET ABOVE THE GROUND,

From 1 December, 1857, to 30 November, 1858.

Month.	No. of Comparisons.	Distance travelled.		Relative Excess of Higher Gauge.
		Lower Gauge.	Higher Gauge.	
1857. December	31	Miles. 3635	Miles. 8134	2.24
1858. January	31	3445	8382	2.43
February	28	3554	7414	2.09
March	29	3553	7674	2.16
April	30	3740	7825	2.09
May	31	3805	8881	2.33
June	30	2461	5442	2.21
July	31	3092	6789	2.20
August	28	2744	6400	2.33
September ...	30	2740	6571	2.39
October	31	3044	7502	2.47
November ...	30	3066	6906	2.25
Year	360	38879	87920	2.26

Hence the intensity of the wind on the Tower is 2.26 greater than at 22 feet, and the mean bi-hourly velocity is 19.53 miles, instead of 8.64 miles.

Wishing to compare the foregoing with the contemporary results obtained at Kew and Liverpool, by essentially similar means, I have been favoured by Mr. Welsh and Mr. Hartnup with the tables, which will be found at pp. [94—96], containing the mean hourly velocity of the wind,—at Kew during the years 1856—57;—and at Liverpool during the year 1857.

These tables give the *hourly* velocity. To render them strictly comparable with our own, in which the periods are *bi-hourly*, I have added together each pair of consecutive hours, and thence deduced the following expressions, in terms of relative velocity.

$$\text{Kew 1856 ... } V_x = 1.0 + 0.262 \sin(x + 78.5) + 0.067 \sin(2x + 89.5)$$

$$\text{1857 } = 1.0 + 0.306 \sin(x + 78.8) + 0.079 \sin(2x + 90.5)$$

$$\text{Liverpool 1857 } = 1.0 + 0.150 \sin(x + 86.3) + 0.037 \sin(2x + 58.5)$$

The latter expression is almost identical with that deduced from 4 years' observation (1852—55) at the same place (*R. O. Vol. xvii. p. [xxiii]*).

The mean bi-hourly velocity at Kew in 1856 was 20.72 miles; in 1857, 19.52 miles; at Liverpool in 1857 it was 23.00 miles. Multiplying these quantities respectively by the relative bi-hourly velocities deduced from the above formulæ, we obtain the calculated values in the following table.

WIND'S BI-HOURLY VELOCITY.

Hours from Noon.	Kew, 1856.			Kew, 1857.			Liverpool, 1857.		
	Calculated.	Observed.	Excess of Calculation.	Calculated.	Observed.	Excess of Calculation.	Calculated.	Observed.	Excess of Calculation.
	Miles.	Miles.		Miles.	Miles.		Miles.	Miles.	
0—2	27.42	26.97	+ 0.45	26.63	26.12	+ 0.51	27.14	27.4	— 0.26
2—4	26.57	26.85	— .28	25.47	25.17	+ .30	26.80	26.7	+ .10
4—6	23.64	23.40	+ .24	22.39	23.05	— .66	24.86	24.7	+ .16
6—8	20.43	20.04	+ .39	18.89	18.83	+ .06	22.47	22.5	— .03
8—10	18.32	18.71	— .39	16.73	16.04	+ .69	20.77	20.7	+ .07
10—12	17.36	16.97	+ .39	15.71	15.75	— .04	20.17	20.1	+ .07
12—14	16.81	17.15	— .34	15.03	15.18	— .15	20.33	20.1	+ .23
14—16	16.29	16.31	— .02	14.26	14.34	— .08	20.63	20.7	— .07
16—18	16.44	16.25	+ .19	14.65	14.43	+ .22	21.05	20.9	+ .15
18—20	18.03	18.37	— .34	16.65	16.89	— .24	22.01	21.9	+ .11
20—22	21.71	21.78	— .07	20.84	20.25	+ .59	23.81	23.7	+ .11
22—0	25.45	25.73	— .28	24.50	25.01	— .51	25.92	25.8	+ .12
Probable Error \pm 0.218				\pm 0.284			\pm 0.098		

Thus at all the three stations the *times* of maximum and minimum velocity are, as might be expected, nearly the same. But referring to the formulæ for expressing the relative velocity, it will be seen, that the coefficient of the second term is much less at Liverpool than at Kew or Oxford, showing that the daily *changes* of velocity are less. This I remarked last year, and was disposed to ascribe it to some imperfection in our own measures.

Our agreement with Kew seems to show that such is not the case, and that the difference is *real*. Admiral Fitzroy has noticed the influence which the proximity to the river Mersey produces on the *direction* of the wind at the Liverpool Observatory, diverting it from W S W, the usual

wind of this country, to W N W and S S E. Probably the same cause may tend to equalize the *relative* intensity; though the *absolute* intensity appears to be increased thereby;—the bi-hourly velocity in 1857 being, as we have seen, at

Liverpool	23.00 Miles.
Kew	19.52
Oxford (Tower of the Observatory)	19.53

Meteorological Journal.

The indications of the Barometer and Thermometers, in the 2d, 3d, and 4th columns of this Journal, are the means of the 12 daily readings of the respective instruments, given in the foregoing Registers; or, on those days when the Register is imperfect, of the recorded readings corrected for horary changes. They represent, therefore, the mean indications from the noon of one day to the noon of the next.

The highest and lowest temperature in the shade, sun, and grass, were taken from self-registering instruments, by Negretti and Zambra, (that exposed to the sun having a Black Bulb.) These are compared from time to time with a Standard, (No. 230,) by the same makers, to which all our thermometric indications are referred.

The Rain is received in a circular vessel of 10 inches diameter, (placed on the ground in an exposed situation,) and the quantity is measured in a graduated glass tube of one inch diameter. The Rain-gauge is examined every day at 22^h, and when there has been any Fall, the amount is entered into the Journal, opposite the day of examination.

The direction, and horizontal motion of the Wind, are the daily means from the Register; or, when it fails, the direction is the mean of eye observations made 3 times a day, and the horizontal motion is that marked by a small Anemometer of Professor C. P. Smyth's construction.

The amount of Cloud is estimated from 0 to 10;—0, representing a cloudless,—10, an overcast, sky. The numbers given are the means of three estimates daily.

The description of weather applies for the most part from 8 a.m. till 11 p.m. of the current Civil day. In cases of a double description, the first applies to the forenoon.

The days of the Moon's changes, perigee and apogee, and the occurrence of remarkable meteoric phænomena, are given at the foot of each page.

Summary of Results, pp. [75—76.]

The normal values in these tables, except those relating to the wind, are taken from Vol. 15, pp. [xxvii], [xxviii]. They are derived from 25 years' observation. The normal direction, intensity, &c. of the wind were found from elements given in Vol. 14, p. [xv].

The columns entitled "probable excess" show the amount of variation to which the several elements are liable, according to the theory of probabilities. They are intended to show the limits within which it is an even chance, that the monthly means of one year will agree with those of another.

The columns entitled "excess in 1857" give the differences between the several results in 1857, and the mean. These quantities applied algebraically to the mean values, will give the monthly means in 1857; and a comparison of them, with the corresponding "probable excesses," will shew whether any month has been abnormal, or not, with regard to any particular element.

The mean monthly direction, intensity, &c. of the wind, were found from daily values, by Lambert's method.

The direction is given in degrees of the circle, commencing from N, and counted in the direction E, S, W. The *positive* sign, in the column "excess," shows that the difference between the direction in 1857 and the normal direction follows this order.

Pressure of Dry Air under different Winds, [pp. 77—78.]

This table was constructed as follows. The mean daily direction was taken from the Journal, together with the corresponding readings of the Barometer, and arranged according to the several points. The number of points were then reduced to 8, by combining the number of days under the principal points with those under the next preceding, and the next following, allotting to each a weight, according to the number of observations; thus,

$$\text{NNW} + \text{N} + \text{NNE} = \text{N}; \quad \text{NNE} + \text{NE} + \text{ENE} = \text{NE}, \text{ \&c.}$$

The 1st column contains the mean date of each of these groups: the 2d, the mean indication of the Barometer; the 3d gives the force of vapour, according to the 2d Edition of Mr. Glaisher's tables; the 4th, the reduction of the mean monthly to the mean annual pressure, taken from the following table, (the result of 25 years' observation.) The object of this correction is to make the several results directly comparable with each other, although during some months there may be, and frequently is, altogether a failure of particular winds.

Month.	Atmo- spheric Pressure.	Pressure of Vapour.	Pressure of Dry Air.	Excess from Annual Mean.
	in.	in.	in.	in.
January	29.721	.203	29.518	+ 0.096
February.....	.700	.200	.500	+ .078
March.....	.690	.206	.484	+ .062
April.....	.700	.235	.465	+ .043
May .....	.733	.306	.427	+ .005
June .....	.725	.391	.334	— .008
July .....	.721	.425	.296	— .126
August .....	.730	.394	.336	— .086
September...	.718	.338	.380	— .042
October .....	.684	.289	.395	— .027
November ...	.677	.247	.430	+ .008
December ....	.707	.214	.493	+ .071
Mean.....	29.709	.287	29.422	

This is the same table as we gave last year; the differences from the corresponding one in our 16th Volume, are in consequence of the adoption of the *second* (instead of the *first*) Edition of Mr. Glaisher's *Hygrometrical Tables*, in which he has used Regnault's elements, instead of Dalton's.

The pressure of Dry Air in 1857 was 29.448 inches; the excesses of the several results of the table at pp. [77—78], from this value, are given in the 2d column of the table below. The 4th column contains the corresponding excesses from the mean pressure, in 1853—56 (Vol. 17, p. [xxviii]). The 6th column gives the results of the five years, combined according to the number of observations. The mean pressure, in the last column, was obtained by adding the mean excesses to 29.422, the general mean annual pressure of dry air, as given in the foregoing table.

	Excess in 1857.	No. of Obs.	Excess in 1853-56.	No. of Obs.	Mean Excess.	No. of Obs.	Mean Pressure of Dry Air
	in.		in.		in.		in.
N	+0.085	55	+0.104	309	+0.101	364	29.523
NE	+ .128	82	+ .134	240	+ .132	322	.554
E	+ .064	48	+ .030	135	+ .037	183	.459
SE	— .204	34	— .086	68	— .125	102	.297
S	— .108	61	— .143	171	— .139	232	.283
SW	— .014	134	— .126	341	— .094	475	.328
W	— .016	104	— .044	348	— .037	452	.385
NW	+ .027	36	+ .044	216	+ .042	252	.464

Force of Vapour.

Reducing the pressure of vapour, given in the 3d column of the several sections of the table at pp. [77—78], to annual values, (by applying corrections derived from the third column of the table at p. xxvii,) we find the pressure under different winds as follows.

PRESSURE OF VAPOUR UNDER DIFFERENT WINDS.

	Tabular Mean.	Reduc- tion to Annual Mean.	Mean Pressure of Vapour.	No. of Obs.
	in.	in.	in.	
N	0.287	— .001	0.286	55
NE	.304	— .003	.301	82
E	.311	+ .002	.313	48
SE	.350	+ .004	.355	34
S	.341	+ .010	.351	61
SW	.336	— .007	.329	134
W	.322	.000	.322	104
NW	.305	+ .006	.311	36

in.

Subtracting 0.316 (the mean pressure during the year 1857) from these quantities, severally, we obtain the excesses under each wind, as given in the 2d column of the table below; and combining them with the corresponding results in 1853—56, (Vol. 17, p. [xxix].) we have the mean of 5 years' observation, given in the 6th column.

	Excess in 1857.	No. of Obs.	Excess in 1853—56.	No. of Obs.	Mean Excess.	No. of Obs.
	in.		in.		in.	
N	— .030	55	— .026	309	— .027	364
NE	— .015	82	— .016	240	— .016	322
E	— .003	48	— .004	135	— .004	183
SE	+ .039	34	+ .011	68	+ .020	102
S	+ .035	61	+ .045	171	+ .043	232
SW	+ .014	134	+ .032	341	+ .027	475
W	+ .006	104	+ .018	348	+ .015	452
NW	— .005	36	— .019	216	— .017	252

The general mean annual pressure of vapour is 0.287^{in.}. Adding to this value the mean excesses in the table, we obtain the mean pressure of vapour under different winds; which again, being added to the corresponding pressure of dry air, gives the atmospheric pressure. These several values are contained in the following table.

	Mean Pressure of		
	Vapour.	Dry Air.	Atmosphere.
	in.	in.	in.
N	0.260	29.523	29.783
NE	.271	.554	.825
E	.283	.459	.742
SE	.307	.297	.604
S	.330	.283	.613
SW	.314	.328	.642
W	.302	.385	.687
NW	.270	.464	.734

Temperature under different Winds, pp. [79—80.]

This table was formed in the same manner as that just described.

The reductions to annual temperature were found by subtracting the temperature corresponding to the mean date, (in the column of normal temperatures in the table at p. [83].) from 48°.6, (the general mean annual temperature.)

The excesses of the several mean values from 50°.4, (the mean temperature of 1857,) compared and combined with those of 1853—56, (Vol. 17, p. [xxx]), are given in the 6th column. The values in the last column = 48°.6 + mean excess.

	Excess in 1857.	No. of Obs.	Excess in 1853—56.	No. of Obs.	Mean Excess.	No. of Obs.	Mean Tempera- ture.
	0		0		0		0
N	— 3.2	55	— 2.4	309	— 2.5	364	46.1
NE	— 1.7	82	— 2.6	240	— 2.4	322	46.2
E	+ 0.5	48	— 0.9	135	— 0.5	183	48.1
SE	+ 1.9	34	+ 1.0	68	+ 1.3	102	49.9
S	+ 2.0	61	+ 3.5	171	+ 3.1	232	51.7
SW	+ 1.1	134	+ 3.0	341	+ 2.5	475	51.1
W	+ 1.2	104	+ 1.5	348	+ 1.4	452	50.0
NW	— 1.6	36	— 0.8	216	— 0.9	252	47.7

Mean Daily Velocity of Wind and Amount of Cloud under different Winds,
p. [81.]

This table was formed in the same way as the preceding, by taking out the quantities from the Journal, and distributing them among the different winds in the manner described at p. [xxvii.]

Fall of Rain under different Winds, p. [82.]

This table was formed in the same way as the preceding. But, in reducing the intermediate points to the eight principal points of the Compass, we have taken

$$N = \frac{1}{2}NNW + N + \frac{1}{2}NNE; \quad NE = \frac{1}{2}NNE + NE + \frac{1}{2}ENE, \text{ \&c.}$$

The following table shows the relative quantity of Rain collected in the gauge placed on the ground, (which is entered in the Journal,) and in another gauge 22 feet above the ground, which is always measured at the same time.

FALL OF RAIN ON THE GROUND, AND AT 22 FEET ABOVE.

Month.	Ground.	22 feet.	Ratio.	5-year Ratio.
	in.	in.	in.	in.
January	3.18	2.62	1.214	1.192
February.....	0.32	0.25	1.280	1.218
March.....	1.54	1.30	1.185	1.222
April	2.02	1.64	1.232	1.198
May	1.19	0.96	1.240	1.154
June	3.04	2.54	1.197	1.116
July	3.17	2.64	1.201	1.098
August	3.68	2.95	1.249	1.104
September ...	3.89	3.36	1.158	1.118
October	4.57	3.46	1.321	1.132
November ...	1.67	1.24	1.347	1.144
December	0.66	0.54	1.222	1.164
Year.....	28.93	23.50	1.231	1.155

The following is the distribution of Rain, with regard to quantity.

Month.	Fall under														Sum.	Mean of 25 years.	Prob. Excess.	Excess in 1857.
	Inch.																	
	.05	.10	.20	.30	.40	.50	.60	.70	.80	.90	1.0	1.5	2.0					
	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	d.	days.	days.	days.	
January .	5	2	6	2	1	1	...	...	...	...	1	...	...	18	10.1	+ 3.2	+ 7.9
February.	5	2	1	...	...	...	...	...	...	...	...	...	...	8	10.1	2.3	- 2.1
March ...	7	6	2	...	...	...	...	...	...	...	...	...	...	15	9.3	3.6	+ 5.7
April	3	4	4	...	1	...	...	...	1	...	...	...	...	13	9.8	3.1	+ 3.2
May	3	...	1	1	1	1	...	...	...	...	...	...	...	7	9.5	3.0	- 2.5
June.....	2	2	4	...	...	...	...	1	...	2	...	...	...	11	11.5	2.7	- 0.5
July	2	...	1	...	2	1	...	...	...	...	...	...	1	7	11.4	2.4	- 4.4
August...	2	...	2	2	...	...	1	1	1	...	1	...	...	10	11.3	2.8	- 1.3
Septem. .	6	3	1	2	2	1	...	...	1	...	...	1	...	17	11.0	2.4	+ 6.0
October .	7	1	...	3	3	...	2	...	...	...	...	...	1	17	11.8	3.2	+ 5.2
Novem. ...	14	...	1	2	...	...	...	...	...	1	...	...	...	18	12.2	2.9	+ 5.8
Decem. ...	2	2	1	1	...	...	...	...	...	...	...	...	...	6	11.5	3.6	- 5.5
Sum...	58	22	24	13	10	4	3	2	3	3	2	1	2	147	129.5	+ 11.0	+ 17.5	

NUMBER OF OCCASIONAL METEORIC PHENOMENA IN EACH MONTH OF THE YEAR 1857.

Month.	Snow.	Hail or Sleet.	Aurora Borealis.	Thunder and Lightning.	Thunder only.	Lightning only.
	Days.	Days.	Days.	Days.	Days.	Days.
January	8	2	...	...	...	...
February	3	...	...	...	...	...
March	4	1	...	...	...	...
April	1	3	...	...	...	...
May .....	...	...	...	3	...	1
June .....	...	1	...	4	2	...
July .....	...	...	...	3	...	...
August .....	...	...	...	3	...	...
September ...	...	...	...	...	...	...
October .....	...	...	...	...	...	...
November	1	...	...	...	...	...
December ....	...	...	1	...	...	...
Sum	17	7	1	13	2	1
Mean of 25 years }	10.1	3.8	1.1	3.5	3.6	3.6

Mean Temperature for every 5 Days, p. [83.]

The column in this table containing the normal mean temperature was constructed from the observations made daily, at 22^h, during 25 years, reduced to the mean of the day by applying the Greenwich corrections. The temperatures in 1857, are the 5-day means of the Journal at pp. [63—74.]

It will be seen by this table, that the normal periods of extreme and mean temperature, at this station, are,

Minimum	Jan. 11—15.
Spring Mean.....	April 26—30.
Maximum.....	July 31—Aug. 3.
Autumn Mean	Oct. 13—17.

Oscillations of the Barometer, pp. [84—85.]

This table is intended to show all the variations of the Barometer, throughout the year 1857, amounting to, or exceeding, $\frac{1}{10}$ th of an inch; so that a graphic projection of the quantities given will represent the undulations of the atmosphere which occurred during the year, beyond the above limits, and the time at which the changes took place, within two hours.

The construction of the table is simply this;—the recorded quantities in the Register were followed (disregarding changes less than 0.1 inch) until they reached their maximum or minimum limit, and then they were again traced to the other extreme. These extremes, the times at which they occurred, and the corresponding direction of the wind, are given in the table.

Changes of Wind, &c. pp. [86—93.]

This table exhibits the changes of wind during the year 1857, amounting to or exceeding 45°, (in a few instances, *less*.)

The successive directions given in the Register, not differing from each other more than 2 units of the scale, (equivalent to 45°,) were grouped together, and their means taken. Then, if among the several groups thus formed, it was found that the means of 2 or more successive groups fell within the above limit, they again were grouped together, allotting to each group a weight proportional to the time of continuance.

Arranging the results under each wind separately, we have,

No. of Changes.			Direction of Changes.		Duration of Changes.		Total Duration.	Angular Motion.		Horizontal Motion.		Total Horizontal Motion
			+	—	h.	h.	h.	°	°	Miles.	Miles.	Miles.
17	to	N	12	5	376	94	470	1125	390	1916	390	2306
9		NNE	4	5	146	216	362	135	420	490	702	1192
15		NE	7	8	590	554	1144	495	720	1986	3144	5130
15		ENE	6	9	290	220	510	360	788	742	1039	1781
10		E	7	3	228	74	302	606	270	723	220	943
2		ESE	2	0	20	0	20	135	0	66	0	66
9		SE	8	1	126	52	178	967	90	378	135	513
31		SSE	10	21	298	576	874	990	1793	838	2196	3034
19		S	1	18	32	334	366	135	1170	105	1088	1193
13		SSW	4	9	88	190	278	315	472	197	760	957
18		SW	10	8	352	396	748	697	540	1611	1573	3184
52		WSW	34	18	988	842	1830	2970	1440	4891	4779	9670
17		W	13	4	670	166	836	967	225	3881	713	4594
4		WNW	1	3	248	32	280	90	225	1553	172	1725
9		NW	9	0	194	0	194	832	0	419	0	419
15		NNW	9	6	256	122	378	870	516	1142	398	1540
...		.....	137	118	4902	3868	8770	11689	9059	20938	17309	38247

The table above shows the number of times the wind arrived at each of the specified points; the course in which it shifted, whether *direct* or *retrograde*; and in each case, its duration; its angular, and its horizontal motion.

Dividing the circle into quadrants, and making the quadrant

$$\begin{aligned} \text{N to E} &= \frac{1}{2} \text{N} + \text{NNE} + \text{NE} + \text{ENE} + \frac{1}{2} \text{E} \\ \text{E to S} &= \frac{1}{2} \text{E} + \text{ESE} + \text{SE} + \text{SSE} + \frac{1}{2} \text{S}; \\ &\quad \&c. \end{aligned}$$

the number of *direct* and *retrograde* changes are as follows:

	Direct.	Retrograde.	$\frac{D}{R}$
N to E	26.5	26.0	1.02
E ... S	24.0	32.5	0.59
S ... W	55.0	46.0	1.20
W ... N	31.5	13.5	2.33
Sum ...	137.0	118.0	1.16

The *direct* angular motion exceeded the *retrograde*, $2630^{\circ} = 7.30$ circumferences of the circle.

From the Directions, and times of duration (disregarding difference of velocity), we have

$$\begin{aligned}\text{Mean Direction} &= 252^{\circ} = \text{N } 72^{\circ} \text{ W} \\ \text{Intensity} &= 0.180\end{aligned}$$

This we may designate the wind's *statical* element; having reference only to duration.

Rejecting duration, and allowing to each wind a weight proportionate to its horizontal motion, we have the *dynamical* element,

$$\begin{aligned}\text{Mean Direction} &= 264^{\circ} = \text{N } 84^{\circ} \text{ W} \\ \text{Intensity} &= 0.745;\end{aligned}$$

And, as the sum of horizontal motion, according to the foregoing table, is 38247 miles,

$$38247 \times .745 = 28494 \text{ miles}$$

is the distance a particle of air over our Anemometer would have been carried in the interval between 1856 December 31 to 1857 December 31, in the direction almost due East.

Illustrations of Barometric and Thermometric Curves during Thunder Storms.

These curves have been very carefully traced from the Photographic records of those days when there are notices, in the Journal, of the occurrence of thunder and lightning. They are intended for further illustration of some remarks I made on the subject on a former occasion, (*R. O. Vol. 15*, pp. [xliii, &c.]) Each plate contains the curves of two days, separated by a longitudinal line. The upper curve in each half represents the curve of the Barometer,—the lower one that of the Thermometer;—but the indications of the instruments marked on the margin will serve sufficiently to distinguish them.

The zero lines on these plates are different, but they are all drawn on the same scale; *viz.*

$$\begin{aligned}\text{Barometer} &= 0.25 \text{ in.} = 0.141 \text{ in. of Pressure.} \\ \text{Thermometer} &= 0.25 \text{ in.} = 3.25^{\circ} \text{ Fahrenheit.}\end{aligned}$$

Descriptions of the weather on the days to which these curves refer, have in some cases been already given in the Journal. But sometimes we

were compelled, for want of space, to abridge the notices which occur in our Day-book. The following descriptions contain all the particulars there noted.

- P. I. May 11. Heavy rain at day break, and occasionally afterwards till 2^h.
Lightning in the evening (thunder said to have been heard).
14. Fair. Lightning after 10^h.
- II. 15. Fair. A thunder storm at night which lasted from 10^h to 12^h.
- June 5. Fair. Distant thunder and lightning from 11^h to 12^h.
- III. 16. Fair. till 1^h, when a shower of rain fell. At 3^h, the sky towards N.N.E overspread with dense black clouds, and a brisk wind blowing from that quarter. The wind then shifted Eastward: distant thunder was heard, followed immediately by rain and stormy wind. Occasional showers afterwards.
19. Fair with heavy clouds, the heat oppressive. At 7^h, drops of rain; distant thunder and lightning. At 8^h, dashing rain. At 12^h, thunder, lightning, and rain.
- IV. 20. Variable (heavy clouds and sunshine). Thunder storms at 8^h and 12^h.
30. Thunder storm with hail and rain from 1^h 15^m to 1^h 45^m. During this time there were 4 claps of thunder accompanied by lightning; 0.52 inch of rain fell. The hail stones were cone-shaped, and the rain was remarked as being *very white*. Frequent showers after.
- V. July 5. Vivid lightning after 9^h, with distant thunder.
6. Rain at 1^h 40^m. At 4^h, thunder (not distant). At 4^h 30^m, the storm over Oxford. At this time the lightning very vivid, followed immediately by thunder and rain. The storm lasted till 6^h, when the weather cleared up. Summer lightning at 9^h 30^m. Some hail stones fell during the storm.
- VI. 27. Distant thunder and rain at 4^h 50^m. Heavy rain after 9^h. Lightning was seen several times during the evening. Heavy rain at intervals throughout the day.
- Aug. 9. Rain and sunshine till 1^h 20^m, when a thunder storm approached. Thunder was heard at the following times. At 1^h 45^m, distant, raining lightly; 2^h 25^m, nearer, raining lightly; 2^h 30^m, still nearer, heavy rain; 2^h 35^m, still heavier peal, rain lighter; 3^h 10^m, continued rumbling for several minutes; 3^h 30^m, two heavy peals with lightning and heavy rain. No more was heard after. Partially clear at night.

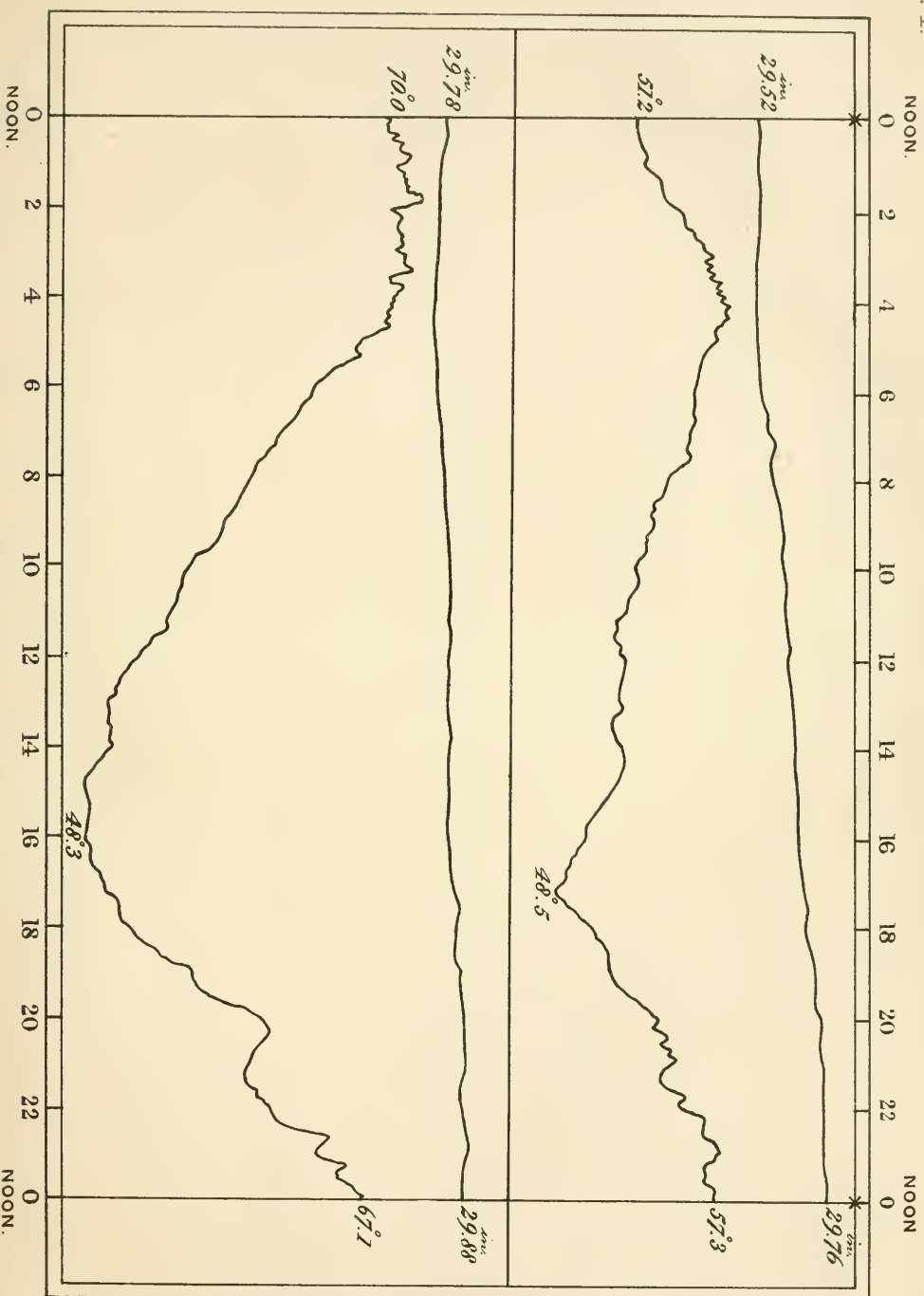
VII. Aug. 13. At 6^h, a storm gathering; at 7^h, heavy storm of thunder, lightning, and rain, which lasted till 10^h 30^m. After this, vivid sheet lightning and distant thunder.

14. At 4^h, distant rumbling of thunder. At 4^h 10, a flash of lightning and peal of thunder. At 5^h 20^m, louder thunder with rain. From this time one almost continuous peal of crackling thunder and various kinds of lightning till 7^h 30^m, when there was a violent peal of thunder. Sheet lightning continued afterwards.

A comparison of these notes with the corresponding illustrations cannot fail, in my opinion, to lead to the inference, that the disturbances exhibited both on the Barometric and Thermometric curves, (especially the former,) are caused by the presence of electricity in the atmosphere, of which we had, on these occasions, sensible proof. But they are more interesting from the circumstance, that similar disturbances occur not unfrequently when there has been no overt manifestation of that agency; especially during the winter months, when, according to the concurrent testimony of all observers, Atmospheric Electricity is most abundant. The disturbances, it will be seen, take place sometimes in the form of *increased*, sometimes in that of *diminished pressure*.

P.I.

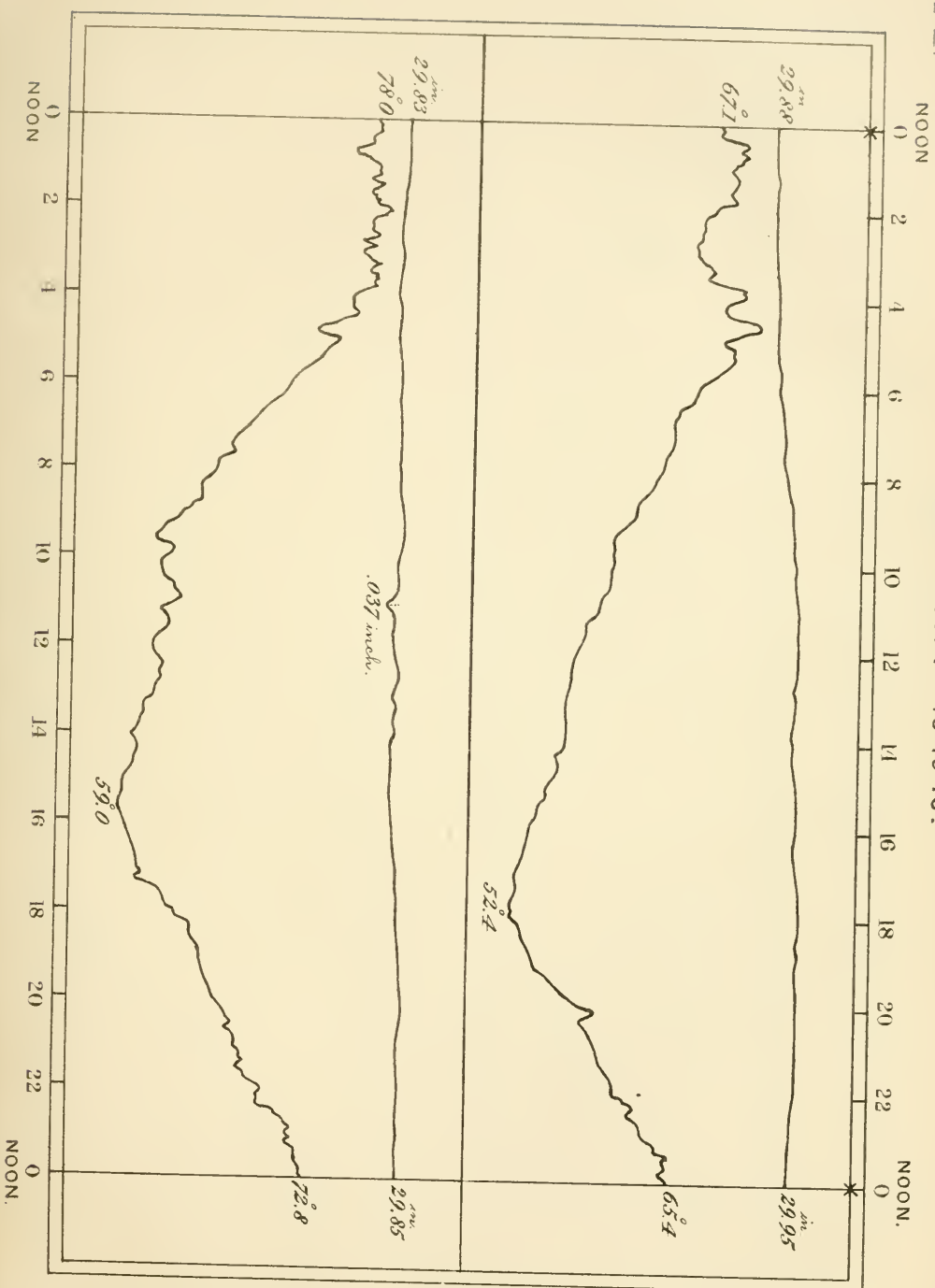
1857. MAY 11 TO 12.



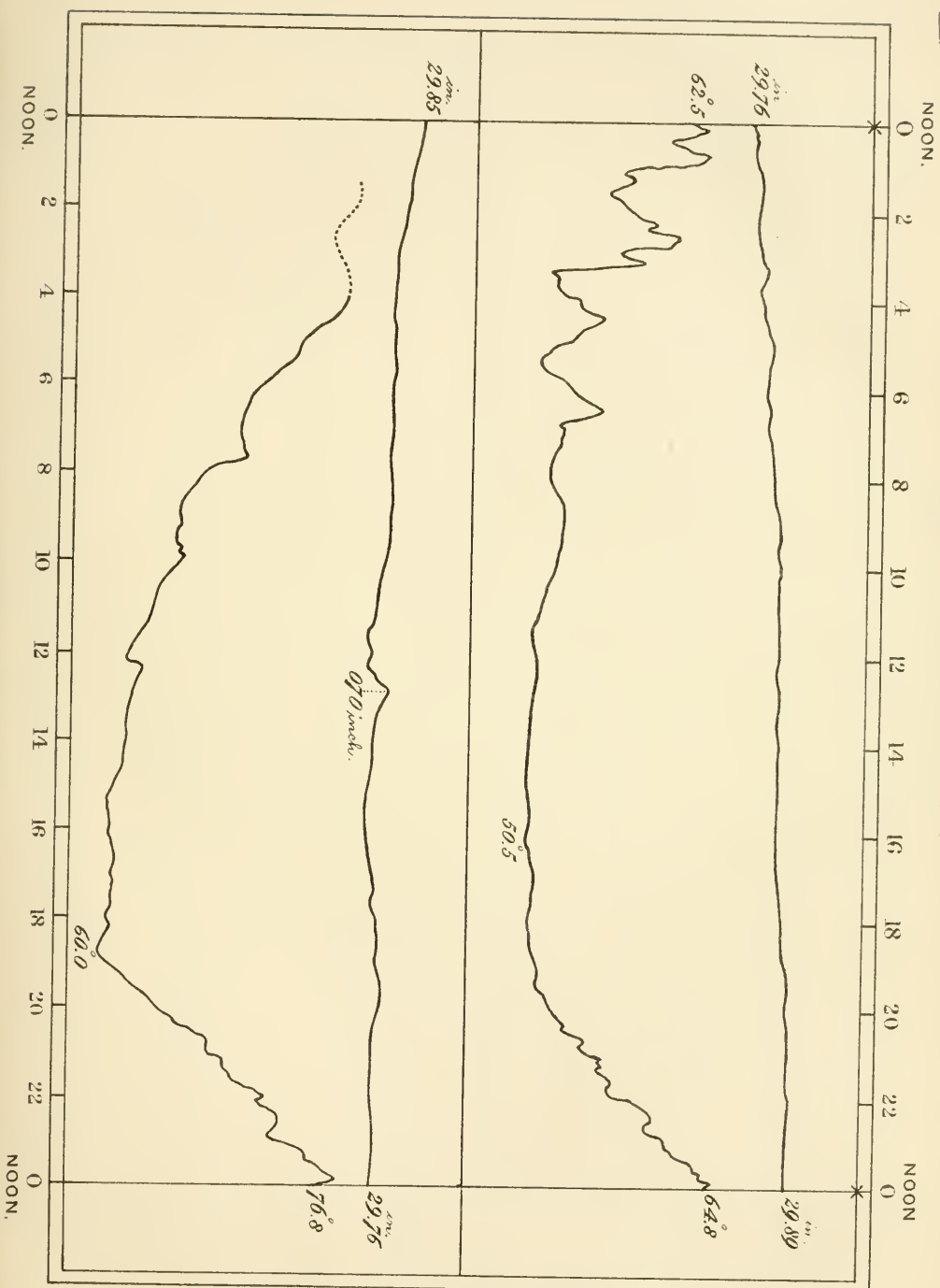
MAY 14 TO 15.

P II.

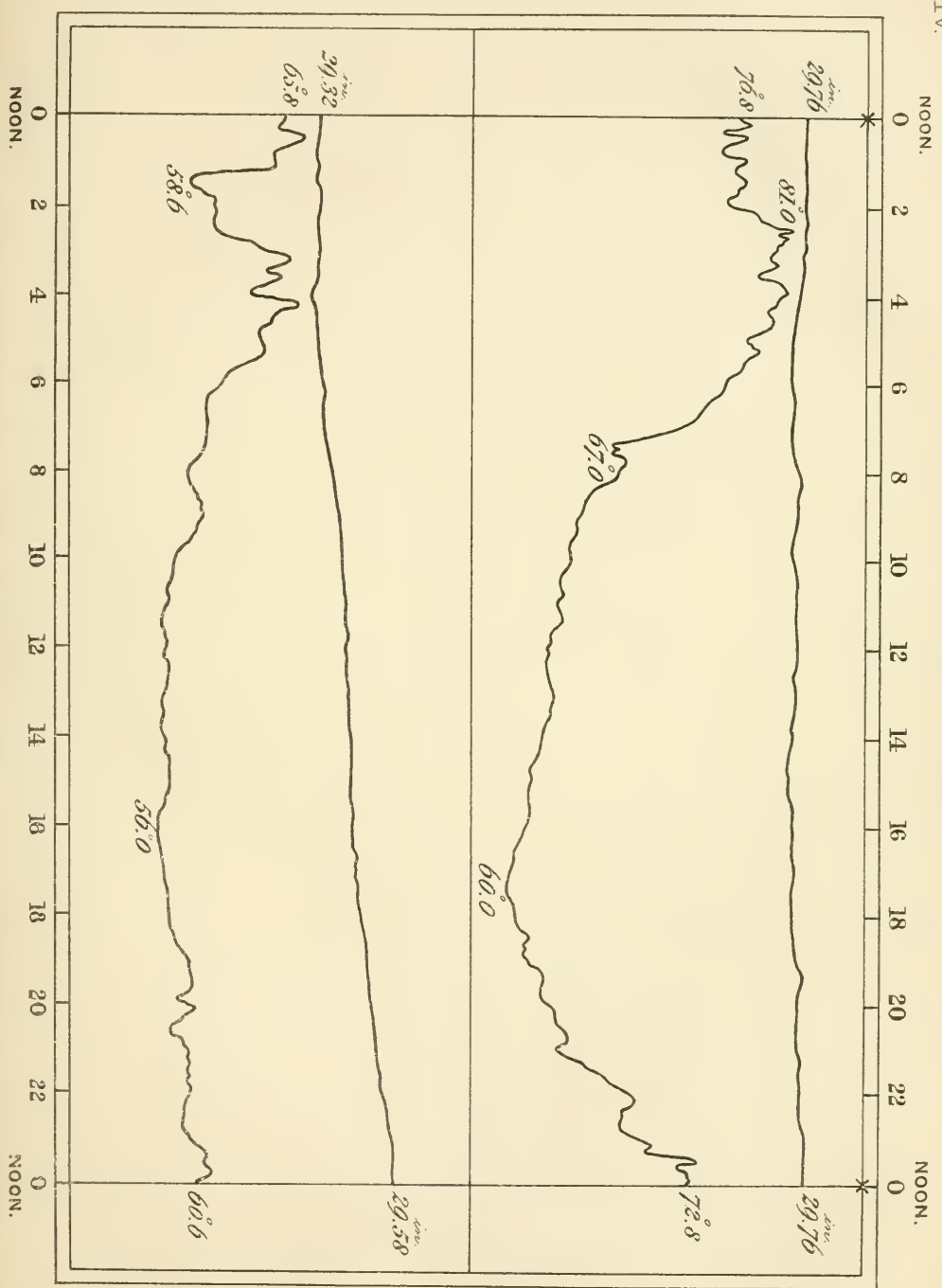
1857. MAY 15 TO 16.



JUNE 5 TO 6.



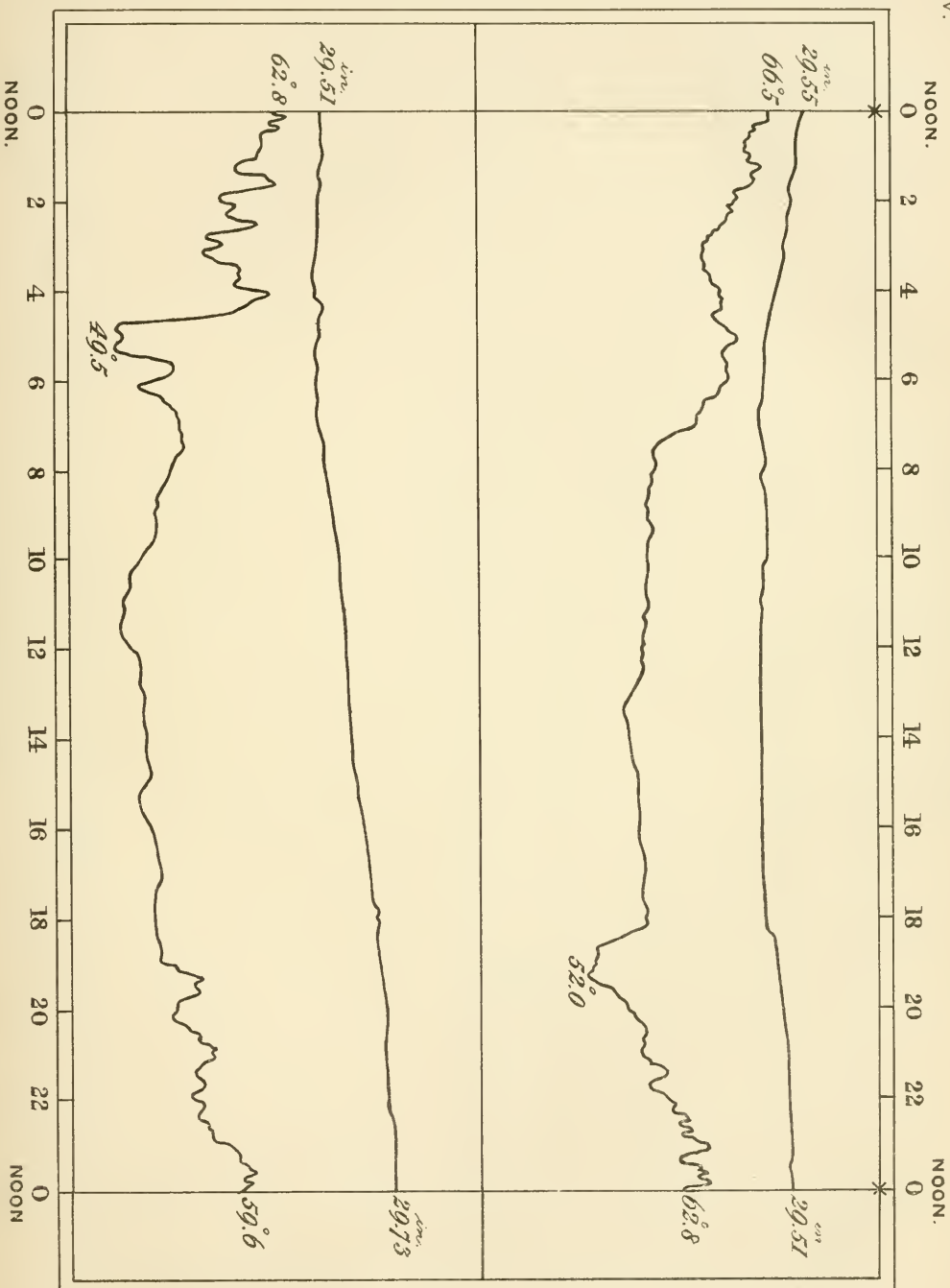
1857. JUNE 20 to 21.



JUNE 30 to JULY 1.

P. V.

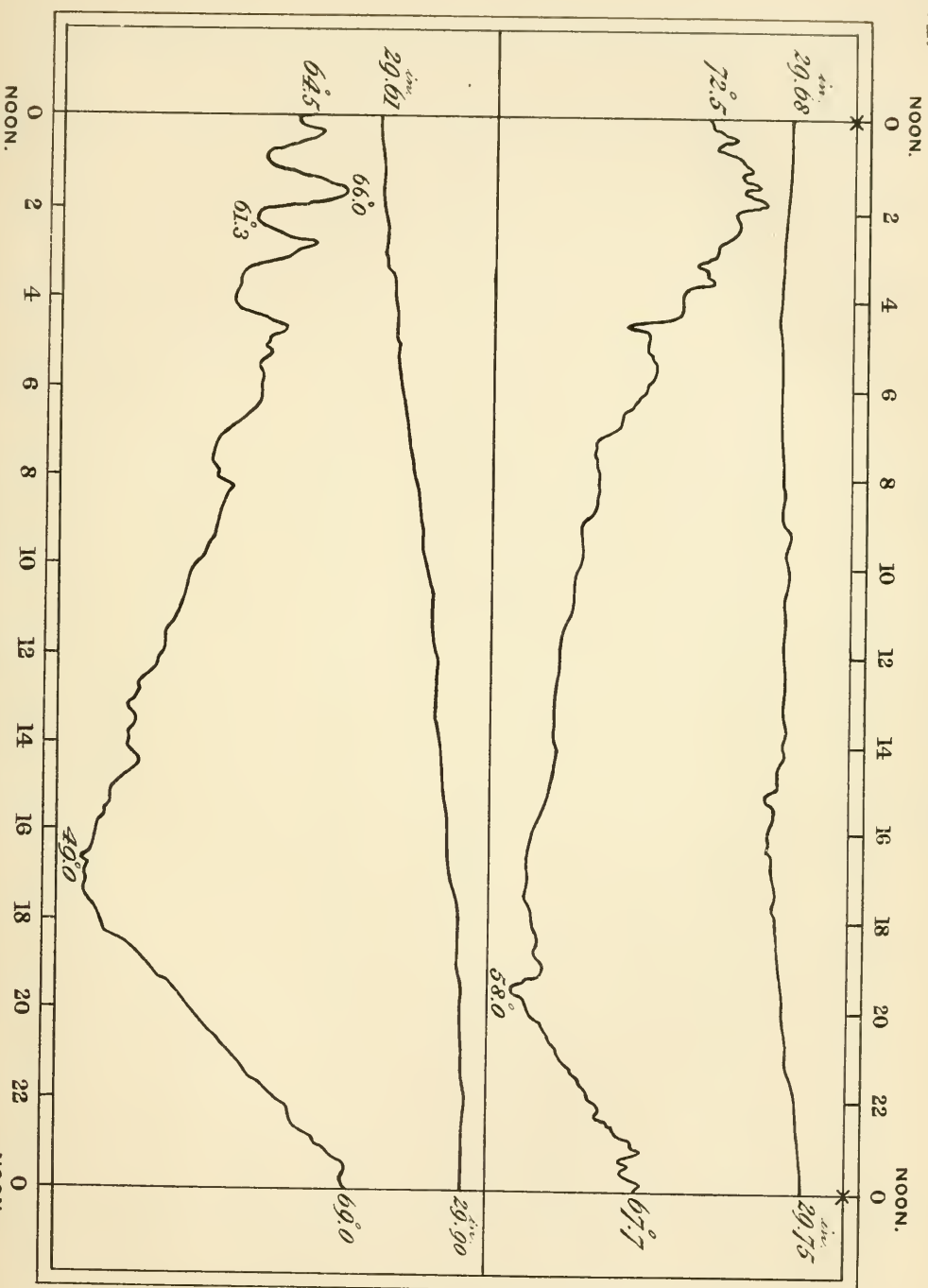
1857. JULY 5 to 6.



JULY 6 to 7.

P. VI.

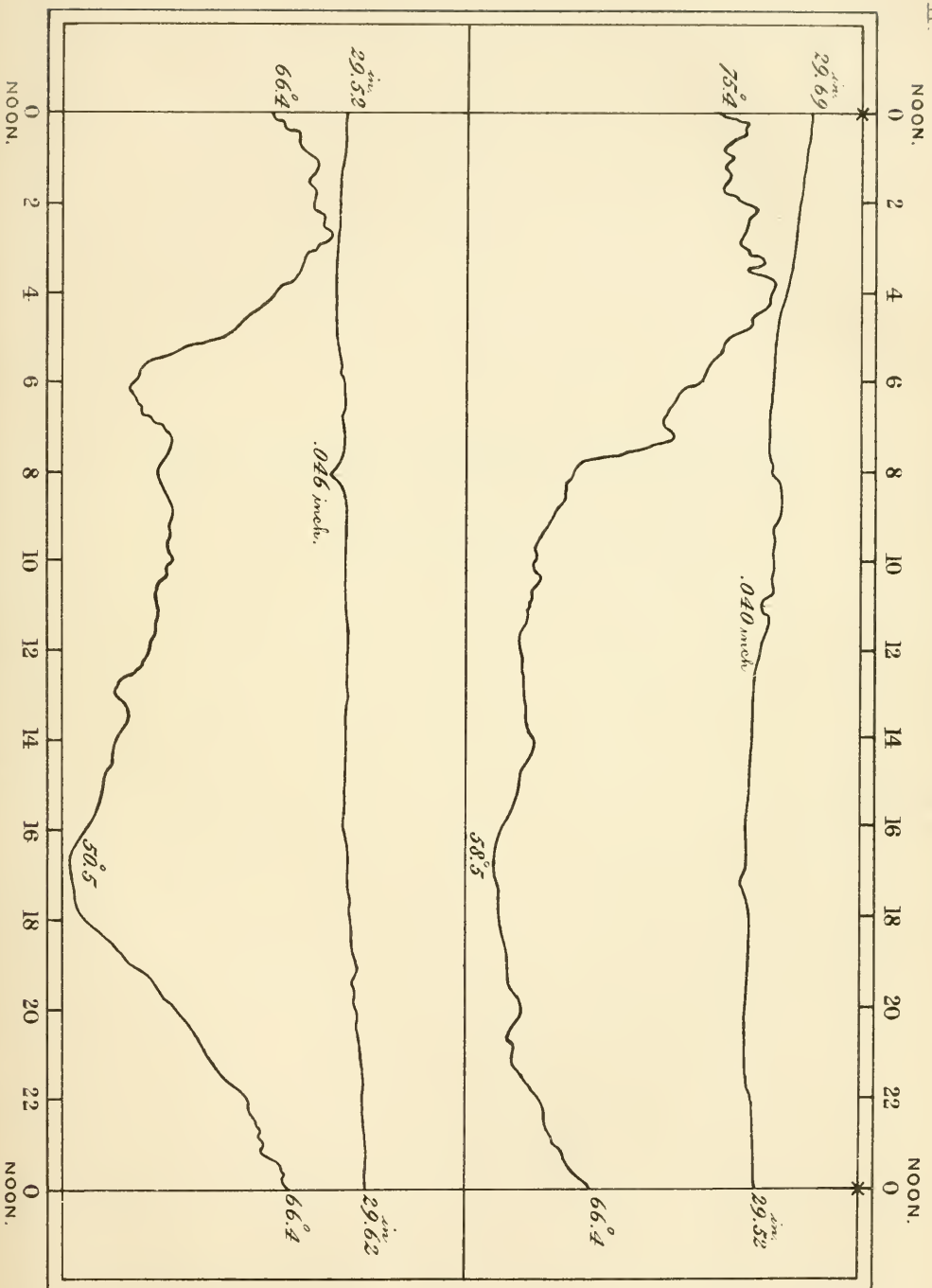
1857. JULY 27 TO 28.



AUGUST 9 TO 10.

P. VII.

1857. AUGUST 13 TO 14.



AUGUST 14 TO 15.

METEOROGRAPHIC REGISTER

DURING THE YEAR 1857.

BAROGRAPH.

JANUARY, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
1856. Dec. 31	in. ...	in. ...	in. ...	in. ...	in. ...	in. ...	in. (1.91	in. 1.91	in. 1.90	in. 1.89	in. 1.91	in. 1.92)
1857. Jan. 1	1.89	1.86	1.85	1.81	1.75	1.68	1.59	1.55	1.54	1.52	1.54	1.56
2	1.56	1.55	1.56	1.56	1.55	1.52	1.46	1.39	1.27	1.14	1.04	1.00
3	0.94	0.88	0.81	0.78	0.82	0.88	0.92	0.94	0.94	0.94	0.95	0.97
4	0.98	1.00	1.05	1.14	1.22	1.29	1.35	1.44	1.52	1.61	1.69	1.76
5	1.81	1.83	1.89	1.92	1.93	1.93	1.93	1.95	1.94	1.94	1.95	1.99
6	2.01	2.02	2.06	2.09	2.13	2.16	2.16	2.17	2.18	2.18	2.20	2.21
7	2.21	2.21	2.21	2.21	2.21	2.21	2.19	2.19	2.16	2.14	2.13	2.15
8	2.13	2.10	2.10	2.10	2.10	2.10	2.08	2.06	2.04	1.99	1.98	1.95
9	1.89	1.82	1.76	1.71	1.65	1.55	1.45	1.41	1.34	1.31	1.31	1.37
10	1.42	1.42	1.35	1.27	1.10	0.91	0.82	0.74	0.70	0.74	0.81	0.87
11	0.91	0.95	1.02	1.10	1.12	1.15	1.17	1.15	1.12	1.09	1.05	1.02
12	0.97	0.92	0.91	0.92	0.95	0.98	1.01	1.05	1.10	1.15	1.22	1.29
13	1.34	1.37	1.41	1.46	1.51	1.56	1.62	1.68	1.74	1.81	1.85	1.91
14	1.92	1.93	1.99	2.01	2.01	1.99	1.99	1.97	1.95	1.91	1.88	1.86
15	1.81	1.79	1.81	1.83	1.86	1.88	1.89	1.89	1.90	1.91	1.92	1.95
16	1.95	1.96	1.98	2.02	2.06	2.09	2.10	2.12	2.13	2.15	2.15	2.15
17	2.15	2.13	2.12	2.13	2.15	2.15	2.15	2.13	2.13	2.12	2.12	2.13
18	2.13	2.10	2.09	2.08	2.08	2.08	2.08	2.03	2.02	2.02	2.08	2.12
19	2.13	2.13	2.15	2.14	2.12	2.08	1.99	1.89	1.76	1.64	1.51	1.39
20	1.25	1.19	1.15	1.12	1.12	1.12	1.15	1.18	1.21	1.25	1.29	1.35
21	1.38	1.38	1.41	1.44	1.48	1.51	1.55	1.59	1.61	1.65	1.63	1.69
22	1.66	1.61	1.54	1.48	1.39	1.34	1.29	1.27	1.24	1.19	1.18	1.17
23	1.14	1.07	1.05	1.02	1.01	0.97	0.91	0.91	0.88	0.89	0.92	0.94
24	0.97	0.98	1.00	1.01	1.02	1.02	1.00	0.98	0.98	1.01	1.08	1.15
25	1.19	1.25	1.31	1.37	1.41	1.45	1.48	1.49	1.49	1.49	1.51	1.54
26	1.55	1.56	1.61	1.64	1.66	1.69	1.71	1.72	1.72	1.74	1.75	1.75
27	1.74	1.71	1.71	1.72	1.72	1.74	1.74	1.72	1.71	1.71	1.71	1.69
28	1.68	1.64	1.62	1.62	1.62	1.62	1.63	1.64	1.63	1.64	1.65	1.68
29	1.69	1.69	1.71	1.71	1.72	1.74	1.74	1.72	1.72	1.69	1.68	1.66
30	1.64	1.68	1.54	1.49	1.45	1.42	1.38	1.39	1.41	1.42	1.45	1.48
31	1.51	1.50	1.55	1.61	1.65	1.68	1.70	1.71	1.74	1.75	1.76	1.78
Mean	29.597	29.584	29.589	29.597	29.600	29.597	29.586	29.582	29.574	29.572	29.582	29.594

BAROGRAPH.

FEBRUARY, 1857.

28 inches \pm .

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.76	1.75	1.74	1.71	1.70	1.66	1.62	1.56	1.49	1.45	1.41	1.38
2	1.34	1.29	1.28	1.28	1.29	1.31	1.32	1.35	1.38	1.42	1.49	1.56
3	1.59	1.62	1.66	1.74	1.79	1.83	1.86	1.91	1.92	1.94	1.99	2.02
4	2.03	2.03	2.05	2.06	2.08	2.10	2.08	2.05	2.03	2.01	1.97	1.95
5	1.92	1.86	1.83	1.81	1.79	1.77	1.75	1.74	1.71	1.69	1.70	1.71
6	1.71	1.69	1.69	1.68	1.68	1.67	1.65	1.61	1.61	1.59	1.58	1.57
7	1.55	1.52	1.52	1.52	1.51	1.52	1.49	1.48	1.47	1.46	1.46	1.46
8	1.45	1.45	1.44	1.45	1.45	1.46	1.45	1.42	1.42	1.39	1.39	1.35
9	1.34	1.28	1.28	1.25	1.24	1.24	1.24	1.24	1.31	1.39	1.45	1.49
10	1.50	1.48	1.48	1.51	1.52	1.56	1.58	1.58	1.59	1.62	1.65	1.69
11	1.71	1.71	1.72	1.76	1.78	1.88	1.92	2.01	2.05	2.09	2.13	2.18
12	2.19	2.19	2.19	2.20	2.20	2.21	2.19	2.18	2.15	2.13	2.13	2.14
13	2.13	2.10	2.08	2.08	2.09	2.09	2.10	2.09	2.08	2.08	2.10	2.10
14	2.10	2.05	2.03	2.03	2.03	2.03	2.03	2.02	1.99	1.98	1.99	1.98
15	1.95	1.93	1.92	1.90	1.92	1.93	1.93	1.93	1.91	1.91	1.92	1.92
16	1.90	1.86	1.85	1.86	1.88	1.88	1.86	1.85	1.82	1.81	1.82	1.83
17	1.81	1.78	1.78	1.79	1.79	1.79	1.79	1.78	1.76	1.76	1.79	1.81
18	1.81	1.79	1.79	1.82	1.85	1.86	1.88	1.86	1.88	1.91	1.93	1.95
19	1.96	1.96	1.96	1.98	1.99	2.00	1.99	1.98	1.98	1.98	1.99	2.00
20	1.99	1.98	1.96	1.98	2.01	2.02	2.05	2.06	2.05	2.05	2.08	2.08
21	2.08	2.06	2.06	2.08	2.09	2.10	2.10	2.09	2.07	2.06	2.08	2.08
22	2.05	2.01	1.99	1.99	2.02	2.02	2.03	2.03	2.05	2.05	2.09	2.10
23	2.12	2.10	2.10	2.10	2.10	2.10	2.10	2.09	2.08	2.08	2.08	2.08
24	2.03	2.00	1.96	1.98	1.99	1.98	1.98	1.98	1.96	1.95	1.98	1.99
25	1.99	2.01	2.03	2.08	2.13	2.18	2.21	2.22	2.25	2.27	2.32	2.33
26	2.33	2.32	2.30	2.30	2.30	2.29	2.30	2.27	2.26	2.25	2.27	2.27
27	2.25	2.25	2.24	2.25	2.27	2.29	2.30	2.29	2.29	2.30	2.33	2.35
28	2.35	2.33	2.32	2.33	2.36	2.37	2.37	2.37	2.36	2.36	2.37	2.40
Mean	29.890	29.871	29.865	29.874	29.887	29.898	29.899	29.893	29.888	29.892	29.911	29.919

BAROGRAPH.

MARCH, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	o h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	2.39	2.35	2.33	2.33	2.35	2.36	2.35	2.33	2.32	2.30	2.32	2.32
2	2.32	2.29	2.27	2.27	2.29	2.30	2.30	2.29	2.27	2.27	2.27	2.27
3	2.25	2.21	2.19	2.16	2.18	2.16	2.14	2.12	2.07	2.03	2.03	2.01
4	1.96	1.91	1.86	1.91	1.98	2.05	2.09	2.13	2.18	2.21	2.22	2.22
5	2.19	2.15	2.08	2.03	1.99	1.92	1.88	1.86	1.83	1.85	1.88	1.89
6	1.88	1.85	1.83	1.85	1.85	1.85	1.82	1.79	1.78	1.78	1.78	1.76
7	1.74	1.71	1.69	1.69	1.69	1.68	1.65	1.61	1.55	1.45	1.38	1.34
8	1.34	1.28	1.31	1.32	1.35	1.38	1.42	1.45	1.49	1.56	1.64	1.71
9	1.74	1.78	1.81	1.85	1.88	1.89	1.89	1.89	1.88	1.88	1.88	1.88
10	1.85	1.83	1.79	1.78	1.78	1.76	1.75	1.73	1.71	1.71	1.71	1.71
11	1.72	1.72	1.74	1.76	1.79	1.82	1.83	1.83	1.82	1.83	1.83	1.86
12	1.85	1.83	1.81	1.81	1.81	1.81	1.79	1.75	1.71	1.66	1.61	1.55
13	1.46	1.41	1.37	1.36	1.35	1.32	1.29	1.18	1.02	0.85	0.85	0.85
14	0.91	0.94	1.00	1.01	0.98	0.88	0.81	0.88	0.94	1.01	1.10	1.18
15	1.25	1.27	1.35	1.44	1.52	1.61	1.65	1.69	1.71	1.74	1.78	1.81
16	1.79	1.78	1.79	1.81	1.81	1.81	1.81	1.78	1.74	1.71	1.66	1.65
17	1.61	1.58	1.56	1.56	1.58	1.58	1.56	1.56	1.56	1.58	1.58	1.59
18	1.56	1.54	1.54	1.55	1.58	1.59	1.59	1.61	1.64	1.68	1.71	1.72
19	1.72	1.71	1.69	1.69	1.72	1.72	1.72	1.71	1.71	1.71	1.72	1.74
20	1.76	1.76	1.78	1.79	1.81	1.83	1.83	1.83	1.85	1.83	1.86	1.85
21	1.81	1.82	1.82	1.83	1.88	1.88	1.86	1.83	1.79	1.78	1.76	1.72
22	1.71	1.65	1.64	1.64	1.62	1.61	1.59	1.56	1.54	1.52	1.51	1.49
23	1.47	1.45	1.44	1.45	1.45	1.45	1.45	1.44	1.42	1.42	1.42	1.42
24	1.41	1.38	1.35	1.35	1.34	1.32	1.29	1.25	1.22	1.19	1.21	1.22
25	1.22	1.24	1.26	1.29	1.34	1.37	1.38	1.41	1.42	1.44	1.48	1.52
26	1.55	1.58	1.61	1.66	1.72	1.74	1.76	1.78	1.78	1.81	1.82	1.83
27	1.84	1.83	1.83	1.83	1.85	1.85	1.84	1.83	1.81	1.82	1.82	1.82
28	1.81	1.78	1.75	1.75	1.75	1.75	1.72	1.68	1.64	1.61	1.59	1.58
29	1.56	1.52	1.46	1.45	1.42	1.37	1.31	1.22	1.05	1.05	1.04	1.01
30	0.97	0.94	0.92	0.92	0.94	0.97	0.98	0.98	1.00	1.00	1.03	1.04
31	1.07	1.07	1.08	1.11	1.16	1.19	1.23	1.23	1.27	1.27	1.29	1.27
Mean	29.667	29.649	29.642	29.653	29.669	29.670	29.664	29.653	29.637	29.629	29.637	29.643

BAROGRAPH.

APRIL, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	o h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.24	1.21	1.18	1.14	1.11	1.07	1.00	0.95	0.91	0.87	0.84	0.91
2	0.97	1.01	1.04	1.10	1.15	1.18	1.21	1.23	1.25	1.28	1.32	1.37
3	1.38	1.41	1.42	1.46	1.52	1.55	1.56	1.56	1.56	1.58	1.58	1.58
4	1.56	1.54	1.49	1.49	1.51	1.52	1.52	1.52	1.49	1.49	1.47	1.46
5	1.43	1.39	1.38	1.37	1.37	1.37	1.37	1.37	1.35	1.38	1.39	1.42
6	1.45	1.46	1.49	1.54	1.57	1.61	1.64	1.65	1.68	1.70	1.72	1.74
7	1.74	1.73	1.73	1.74	1.76	1.78	1.77	1.76	1.75	1.75	1.74	1.72
8	...	...	...	...	...	...	...	...	...	...	...	(1.39)
9	1.37	1.34	1.32	1.32	1.34	1.32	1.31	1.29	1.28	1.29	1.29	1.29
10	1.25	1.22	1.19	1.18	1.19	1.22	1.22	1.21	1.21	1.24	1.29	1.32
11	1.34	1.34	1.34	1.34	1.37	1.34	1.32	1.31	1.28	1.29	1.29	1.27
12	1.24	1.17	1.10	1.01	0.92	0.85	0.80	0.78	0.75	0.77	0.78	0.81
13	0.82	0.87	0.91	0.97	1.01	1.02	1.05	1.07	1.07	1.10	1.13	1.15
14	1.17	1.19	1.21	1.24	1.28	1.30	1.31	1.32	1.34	1.37	1.38	1.39
15	1.39	1.39	1.41	1.44	1.48	1.49	1.52	1.52	1.54	1.56	1.59	1.61
16	1.59	1.61	1.62	1.62	1.66	1.69	1.72	1.72	1.72	1.72	1.72	1.72
17	1.71	1.71	1.68	1.68	1.69	1.71	1.72	1.72	1.74	1.75	1.76	1.75
18	1.72	1.69	1.67	1.66	1.66	1.65	1.64	1.61	1.61	1.66	1.71	1.75
19	1.78	1.81	1.83	1.86	1.92	1.96	1.99	2.01	2.02	2.05	2.06	2.08
20	2.07	2.06	2.05	2.06	2.09	2.09	2.10	2.09	2.09	2.10	2.10	2.12
21	2.10	2.09	2.08	2.08	2.08	2.08	2.06	2.02	1.98	1.93	1.89	1.85
22	1.81	1.79	1.76	1.78	1.81	1.82	1.81	1.78	1.77	1.79	1.79	1.79
23	1.79	1.78	1.77	1.78	1.83	1.86	1.88	1.88	1.88	1.86	1.86	1.82
24	1.78	1.74	1.69	1.66	1.65	1.64	1.62	1.59	1.56	1.56	1.54	1.52
25	1.49	1.46	1.44	1.44	1.45	1.48	1.51	1.55	1.60	1.67	1.71	1.75
26	1.76	1.78	1.79	1.83	1.86	1.87	1.88	1.88	1.86	1.89	1.89	1.90
27	1.89	1.89	1.89	1.90	1.91	1.92	1.92	1.92	1.91	1.92	1.92	1.89
28	1.88	1.86	1.83	1.85	1.85	1.86	1.86	1.85	1.85	1.88	1.89	1.89
29	1.88	1.86	1.86	1.88	1.89	1.90	1.91	1.89	1.89	1.91	1.91	1.91
30	1.90	1.89	1.89	1.90	1.93	1.93	1.93	1.93	1.92	1.93	1.93	1.93
Mean	29.568	29.564	29.554	29.552	29.582	29.588	29.591	29.585	29.580	29.595	29.603	29.609

April 8. 22^h. An eye observation. The carriage had not moved in the Camera.9. 0^h. Interpolated.

BAROGRAPH.

MAY, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	o h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.89	1.89	1.91	1.92	1.93
2	1.93	1.92	1.91	1.92	1.93	1.95	1.96	1.96	1.96	1.98	1.98	1.98
3	1.96	1.95	1.95	1.95	1.98	1.99	2.01	1.99	1.98	1.99	2.01	1.99
4	1.98	1.98	1.96	1.98	2.01	2.02	2.03	2.05	2.05	2.06	2.08	2.08
5	2.08	2.07	2.06	2.05	2.06	2.08	2.08	2.08	2.08	2.08	2.08	2.06
6	2.05	2.04	2.02	2.02	2.03	2.05	2.03	2.03	2.03	2.05	2.05	2.03
7	1.99	1.96	1.95	1.93	1.95	1.94	1.93	1.91	1.89	1.88	1.88	1.85
8	1.82	1.79	1.76	1.75	1.76	1.78	1.76	1.74	1.71	1.69	1.68	1.65
9	1.61	1.58	1.56	1.56	1.58	1.61	1.59	1.58	1.56	1.55	1.54	1.52
10	1.52	1.51	1.49	1.49	1.49	1.49	1.48	1.46	1.46	1.46	1.48	1.51
11	1.52	1.52	1.52	1.54	1.58	1.62	1.64	1.65	1.66	1.69	1.74	1.76
12	1.76	1.78	1.78	1.79	1.82	1.83	1.85	1.85	1.86	1.88	1.89	1.89
13	1.86	1.83	1.82	1.81	1.81	1.81	1.79	1.78	1.78	1.78	1.79	1.79
14	1.78	1.76	1.75	1.76	1.78	1.81	1.81	1.81	1.81	1.83	1.86	1.86
15	1.88	1.88	1.88	1.89	1.91	1.93	1.95	1.93	1.95	1.96	1.96	1.96
16	1.95	1.93	1.91	1.92	1.92	1.92	1.92	1.91	1.91	1.92	1.92	1.92
17	1.91	1.88	1.85	1.85	1.86	1.88	1.88	1.86	1.86	1.86	1.85	1.83
18	1.81	1.79	1.78	1.76	1.76	1.78	1.78	1.76	1.75	1.76	1.78	1.79
19	1.76	1.75	1.74	1.74	1.72	1.72	1.72	1.69	1.68	1.66	1.65	1.64
20	1.61	1.56	1.54	1.54	1.54	1.52	1.51	1.49	1.48	1.48	1.46	1.46
21	1.46	1.45	1.46	1.49	1.54	1.58	1.61	1.62	1.65	1.66	1.68	1.67
22	1.67	1.66	1.65	1.64	1.64	1.64	1.60	1.58	1.55	1.52	1.46	1.42
23	1.39	1.35	1.32	1.28	1.28	1.27	1.27	1.25	1.24	1.25	1.27	1.29
24	1.31	1.31	1.32	1.34	1.37	1.39	1.38	1.37	1.35	1.33	1.32	1.29
25	1.25	1.21	1.17	1.15	1.15	1.17	1.21	1.22	1.24	1.28	1.31	1.32
26	1.37	1.39	1.41	1.42	1.45	1.48	1.49	1.49	1.49	1.52	1.55	1.56
27	1.55	1.55	1.55	1.58	1.61	1.61	1.61	1.61	1.61	1.61	1.61	1.62
28	1.62	1.61	1.59	1.61	1.64	1.66	1.68	1.68	1.69	1.72	1.74	1.75
29	1.76	1.76	1.76	1.77	1.79	1.81	1.82	1.82	1.82	1.83	1.85	1.85
30	1.85	1.85	1.85	1.85	1.86	1.88	1.88	1.88	1.88	1.88	1.88	1.88
31	1.86	1.85	1.83	1.85	1.86	1.89	1.89	1.86	1.85	1.85	1.83	1.82
Mean	29.735	29.722	29.711	29.714	29.728	29.742	29.743	29.735	29.732	29.739	29.743	29.742

BAROGRAPH.

JUNE, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.79	1.78	1.75	1.75	1.75	1.76	1.75	1.74	1.71	1.69	1.68	1.68
2	1.66	1.66	1.65	1.64	1.65	1.68	1.68	1.68	1.69	1.71	1.72	1.74
3	1.74	1.75	1.76	1.81	1.82	1.85	1.85	1.86	1.86	1.89	1.91	1.92
4	1.91	1.91	1.91	1.91	1.91	1.92	1.91	1.89	1.88	1.88	1.86	1.85
5	1.83	1.82	1.81	1.82	1.82	1.82	1.81	1.79	1.81	1.82	1.85	1.85
6	1.85	1.83	1.79	1.81	1.81	1.81	1.78	1.75	1.71	1.66	1.65	1.61
7	1.56	1.55	1.51	1.49	1.46	1.45	1.46	1.46	1.48	1.49	1.51	1.52
8	1.52	1.52	1.52	1.52	1.54	1.55	1.55	1.56	1.58	1.59	1.61	1.61
9	1.59	1.56	1.52	1.46	1.42	1.41	1.38	1.37	1.35	1.35	1.35	1.35
10	1.34	1.34	1.35	1.38	1.44	1.48	1.52	1.55	1.56	1.61	1.64	1.65
11	1.69	1.72	1.75	1.79	1.83	1.88	1.91	1.92	1.93	1.95	1.96	1.99
12	1.99	1.99	1.99	2.02	2.05	2.09	2.10	2.10	2.10	2.12	2.12	2.10
13	2.09	2.06	2.03	2.01	2.01	2.02	2.01	1.99	1.98	1.96	1.95	1.93
14	1.89	1.85	1.82	1.81	1.81	1.81	1.79	1.76	1.74	1.74	1.74	1.73
15	1.72	1.71	1.71	1.72	1.75	1.76	1.76	1.76	1.75	1.76	1.76	1.76
16	1.76	1.76	1.79	1.79	1.82	1.83	1.83	1.84	1.85	1.86	1.88	1.89
17	1.89	1.90	1.91	1.92	1.95	1.99	1.99	1.99	1.99	2.01	2.01	2.02
18	2.01	1.98	1.95	1.96	1.96	1.98	1.98	1.94	1.93	1.93	1.91	1.88
19	1.85	1.80	1.77	1.76	1.78	1.75	1.72	1.74	1.72	1.76	1.78	1.76
20	1.76	1.75	1.74	1.72	1.74	1.72	1.74	1.71	1.72	1.74	1.75	1.76
21	1.76	1.76	1.77	1.79	1.83	1.83	1.86	1.86	1.89	1.92	1.95	1.95
22	1.95	1.95	1.95	1.95	1.96	1.98	1.99	1.99	1.99	2.01	2.02	2.02
23	2.01	2.01	1.99	1.99	2.01	2.03	2.04	2.05	2.06	2.07	2.08	2.08
24	2.08	2.06	2.06	2.06	2.09	2.13	2.15	2.15	2.16	2.18	2.19	2.20
25	2.19	2.16	2.15	2.15	2.17	2.18	2.19	2.18	2.18	2.17	2.16	2.14
26	2.12	2.09	2.05	2.03	2.02	2.02	2.02	1.99	1.98	1.96	1.95	1.93
27	1.91	1.88	1.85	1.83	1.82	1.82	1.81	1.77	1.74	1.74	1.71	1.68
28	1.62	1.58	1.56	1.55	1.55	1.52	1.54	1.51	1.51	1.51	1.51	1.49
29	1.46	1.44	1.42	1.42	1.41	1.40	1.38	1.35	1.32	1.32	1.32	1.32
30	1.32	1.32	1.31	1.34	1.37	1.41	1.42	1.42	1.45	1.46	1.51	1.54
Mean	29.796	29.784	29.771	29.773	29.785	29.800	29.796	29.789	29.788	29.794	29.800	29.799

BAROGRAPH.

JULY, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.58	1.61	1.65	1.68	1.72	1.76	1.79	1.79	1.81	1.82	1.85	1.85
2	1.85	1.85	1.83	1.82	1.83	1.83	1.83	1.81	1.81	1.79	1.79	1.78
3	1.76	1.75	1.74	1.72	1.71	1.69	1.67	1.64	1.63	1.62	1.63	1.62
4	1.61	1.62	1.62	1.61	1.61	1.61	1.61	1.59	1.59	1.59	1.61	1.58
5	1.55	1.52	1.46	1.42	1.42	1.43	1.42	1.42	1.42	1.44	1.49	1.51
6	1.51	1.50	1.49	1.49	1.54	1.57	1.59	1.61	1.65	1.69	1.71	1.72
7	1.73	1.75	1.75	1.74	1.75	1.76	1.76	1.76	1.75	1.76	1.76	1.78
8	1.76	1.77	1.75	1.74	1.75	1.75	1.75	1.72	1.71	1.71	1.71	1.71
9	1.71	1.71	1.69	1.69	1.71	1.73	1.72	1.72	1.71	1.72	1.72	1.74
10	1.74	1.74	1.74	1.74	1.75	1.76	1.78	1.78	1.79	1.81	1.83	1.85
11	1.86	1.91	1.91	1.92	1.93	1.98	1.99	2.01	2.02	2.04	2.05	2.06
12	2.08	2.08	2.08	2.08	2.08	2.10	2.10	2.10	2.10	2.10	2.13	2.16
13	2.13	2.12	2.12	2.10	2.10	2.13	2.13	2.13	2.12	2.13	2.13	2.13
14	2.10	2.08	2.03	2.01	1.99	2.01	1.99	1.96	1.95	1.92	1.91	1.88
15	1.82	1.79	1.76	1.75	1.74	1.74	1.72	1.71	1.68	1.66	1.66	1.66
16	1.65	1.65	1.68	1.69	1.72	1.74	1.75	1.75	1.78	1.82	1.85	1.88
17	1.88	1.88	1.88	1.88	1.91	1.93	1.95	1.95	1.96	1.98	1.99	2.01
18	2.01	2.01	1.99	2.01	2.00	2.02	2.01	1.99	1.97	1.98	1.98	1.91
19	1.91	1.89	1.85	1.83	1.82	1.81	1.79	1.78	1.76	1.76	1.79	1.81
20	1.79	1.79	1.79	1.79	1.81	1.83	1.85	1.86	1.86	1.87	1.88	1.88
21	1.87	1.86	1.83	1.82	1.82	1.82	1.79	1.76	1.74	1.75	1.75	1.75
22	1.74	1.74	1.74	1.75	1.78	1.81	1.81	1.79	1.79	1.80	1.81	1.81
23	1.80	1.79	1.76	1.75	1.76	1.76	1.75	1.71	1.71	1.69	1.68	1.66
24	1.65	1.64	1.64	1.62	1.61	1.61	1.59	1.54	1.52	1.51	1.55	1.58
25	1.60	1.62	1.64	1.66	1.71	1.74	1.75	1.76	1.75	1.77	1.78	1.76
26	1.78	1.76	1.76	1.76	1.78	1.78	1.76	1.75	1.71	1.71	1.69	1.69
27	1.68	1.66	1.65	1.65	1.66	1.68	1.68	1.68	1.64	1.66	1.69	1.72
28	1.75	1.76	1.79	1.82	1.86	1.91	1.93	1.93	1.95	1.96	1.98	1.98
29	1.95	1.92	1.88	1.86	1.86	1.86	1.85	1.83	1.82	1.83	1.83	1.83
30	1.81	1.80	1.80	1.80	1.82	1.83	1.82	1.82	1.82	1.83	1.85	1.85
31	1.85	1.85	1.85	1.85	1.86	1.86	1.86	1.86	1.86	1.86	1.88	1.88
Mean	29.791	29.788	29.778	29.776	29.786	29.800	29.800	29.791	29.786	29.793	29.805	29.806

BAROGRAPH.

AUGUST, 1857.

28 inches +.

	HOURS RECKONED FROM NOON.											
Day.	o h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.87	1.86	1.85	1.85	1.86	1.87	1.88	1.88	1.88	1.89	1.90	1.91
2	1.91	1.91	1.88	1.86	1.88	1.88	1.88	1.85	1.85	1.85	1.83	1.82
3	1.76	1.71	1.69	1.68	1.69	1.69	1.69	1.69	1.68	1.69	1.71	1.72
4	1.72	1.75	1.74	1.72	1.75	1.75	1.74	1.73	1.72	1.71	1.71	1.69
5	1.68	1.65	1.64	1.62	1.62	1.62	1.61	1.56	1.54	1.54	1.54	1.53
6	1.52	1.52	1.52	1.54	1.54	1.54	1.51	1.49	1.48	1.49	1.49	1.49
7	1.49	1.48	1.46	1.46	1.45	1.46	1.46	1.46	1.46	1.47	1.49	1.49
8	1.49	1.49	1.49	1.49	1.51	1.52	1.54	1.54	1.55	1.56	1.59	1.61
9	1.61	1.63	1.66	1.69	1.73	1.76	1.79	1.81	1.84	1.88	1.88	1.91
10	1.90	1.90	1.89	1.89	1.91	1.93	1.93	1.92	1.91	1.92	1.93	1.93
11	1.92	1.92	1.91	1.93	1.93	1.95	1.96	1.95	1.95	1.96	1.96	1.93
12	1.92	1.89	1.86	1.85	1.84	1.85	1.83	1.81	1.79	1.78	1.76	1.74
13	1.69	1.66	1.62	1.58	1.56	1.59	1.55	1.52	1.51	1.52	1.51	1.52
14	1.52	1.51	1.49	1.52	1.49	1.54	1.54	1.54	1.54	1.56	1.58	1.61
15	1.62	1.62	1.64	1.65	1.69	1.69	1.66	1.65	1.62	1.62	1.65	1.65
16	1.65	1.66	1.68	1.71	1.75	1.79	1.81	1.79	1.79	1.81	1.82	1.82
17	1.82	1.82	1.82	1.82	1.85	1.88	1.88	1.88	1.88	1.88	1.89	1.91
18	1.91	1.91	1.91	1.91	1.93	1.93	1.95	1.93	1.93	1.95	1.96	1.98
19	1.96	1.96	1.95	1.96	1.96	1.96	1.96	1.95	1.95	1.95	1.95	1.96
20	1.96	1.96	1.93	1.92	1.95	1.98	1.96	1.96	1.95	1.96	1.96	1.95
21	1.92	1.88	1.86	1.85	1.85	1.86	1.86	1.85	1.83	1.82	1.82	1.81
22	1.80	1.75	1.72	1.71	1.72	1.71	1.69	1.66	1.65	1.65	1.64	1.64
23	1.61	1.56	1.55	1.56	1.56	1.55	1.54	1.54	1.52	1.54	1.55	1.56
24	1.56	1.56	1.56	1.59	1.62	1.64	1.66	1.68	1.69	1.72	1.76	1.81
25	1.82	1.85	1.86	1.89	1.95	1.98	2.01	2.02	2.03	2.05	2.08	2.09
26	2.09	2.08	2.08	2.08	2.10	2.10	2.11	2.13	2.13	2.13	2.14	2.13
27	2.12	2.09	2.08	2.08	2.09	2.09	2.10	2.10	2.10	2.10	2.12	2.11
28	2.09	2.08	2.06	2.06	2.08	2.08	2.06	2.05	2.03	2.03	2.02	2.01
29	1.98	1.96	1.93	1.92	1.92	1.92	1.91	1.88	1.87	1.86	1.86	1.85
30	1.82	1.80	1.78	1.78	1.79	1.79	1.79	1.78	1.76	1.78	1.78	1.78
31	1.78	1.76	1.75	1.75	1.76	1.76	1.76	1.75	1.72	1.71	1.71	1.71
Mean	29.791	29.779	29.770	29.770	29.786	29.796	29.793	29.789	29.779	29.786	29.793	29.796

BAROGRAPH.

SEPTEMBER, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.71	1.69	1.68	1.65	1.65	1.64	1.61	1.55	1.49	1.45	1.44	1.44
2	1.44	1.42	1.42	1.39	1.38	1.38	1.38	1.37	1.34	1.31	1.29	1.31
3	1.30	1.29	1.29	1.31	1.34	1.35	1.35	1.34	1.32	1.32	1.32	1.35
4	1.35	1.36	1.37	1.38	1.41	1.42	1.44	1.45	1.45	1.48	1.51	1.53
5	1.55	1.56	1.56	1.58	1.61	1.63	1.64	1.64	1.62	1.64	1.65	1.66
6	1.66	1.65	1.65	1.65	1.69	1.69	1.70	1.69	1.68	1.68	1.69	1.71
7	1.68	1.65	1.64	1.62	1.62	1.59	1.55	1.49	1.42	1.38	1.37	1.37
8	1.32	1.28	1.22	1.22	1.25	1.27	1.28	1.29	1.32	1.35	1.37	1.37
9	1.35	1.34	1.34	1.34	1.37	1.37	1.37	1.37	1.38	1.43	1.46	1.52
10	1.53	1.51	1.49	1.49	1.49	1.51	1.47	1.45	1.44	1.42	1.42	1.43
11	1.42	1.42	1.41	1.39	1.41	1.41	1.39	1.40	1.41	1.44	1.45	1.46
12	1.46	1.46	1.48	1.49	1.52	1.54	1.55	1.58	1.59	1.64	1.68	1.71
13	1.74	1.74	1.74	1.74	1.76	1.78	1.79	1.79	1.78	1.79	1.81	1.82
14	1.83	1.84	1.85	1.86	1.91	1.91	1.95	1.95	1.95	1.95	1.98	1.99
15	2.00	1.99	1.99	2.01	2.02	2.02	2.03	2.03	2.02	2.03	2.05	2.06
16	2.05	2.02	2.01	2.01	2.03	2.03	2.03	2.03	2.03	2.03	2.05	2.05
17	2.03	2.02	2.01	2.01	2.02	2.03	2.02	2.01	2.01	2.02	2.03	2.04
18	2.03	2.02	2.03	2.05	2.09	2.12	2.13	2.16	2.18	2.21	2.21	2.22
19	2.22	2.22	2.21	2.21	2.23	2.23	2.23	2.23	2.22	2.22	2.22	2.22
20	2.21	2.19	2.16	2.15	2.15	2.16	2.15	2.13	2.11	2.10	2.10	2.10
21	2.07	2.06	2.05	2.05	2.06	2.06	2.06	2.05	2.03	2.05	2.05	2.06
22	2.03	2.01	1.99	1.98	1.99	1.99	1.98	1.95	1.93	1.92	1.93	1.92
23	1.89	1.86	1.83	1.81	1.80	1.76	1.74	1.71	1.68	1.66	1.66	1.65
24	1.65	1.62	1.61	1.62	1.64	1.64	1.61	1.59	1.59	1.59	1.61	1.61
25	1.61	1.62	1.64	1.66	1.69	1.71	1.72	1.72	1.74	1.75	1.76	1.76
26	1.75	1.71	1.69	1.71	1.71	1.70	1.68	1.65	1.62	1.61	1.61	1.62
27	1.62	1.61	1.60	1.62	1.64	1.64	1.62	1.61	1.62	1.62	1.64	1.65
28	1.66	1.65	1.67	1.71	1.75	1.78	1.81	1.82	1.83	1.86	1.89	1.91
29	1.91	1.91	1.89	1.91	1.92	1.92	1.89	1.88	1.83	1.82	1.82	1.82
30	1.79	1.76	1.75	1.78	1.79	1.81	1.81	1.79	1.81	1.82	1.86	1.86
Mean	29.729	29.717	29.708	29.713	29.731	29.736	29.732	29.723	29.715	29.720	29.731	29.741

BAROGRAPH.

OCTOBER, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.86	1.86	1.85	1.87	1.91	1.92	1.92	1.93	1.95	1.98	2.01	2.02
2	2.01	1.98	1.93	1.92	1.91	1.86	1.83	1.81	1.79	1.79	1.79	1.79
3	1.77	1.75	1.72	1.71	1.69	1.66	1.62	1.59	1.55	1.54	1.55	1.56
4	1.54	1.51	1.49	1.49	1.48	1.48	1.46	1.46	1.46	1.46	1.49	1.49
5	1.46	1.46	1.47	1.48	1.49	1.48	1.46	1.45	1.45	1.46	1.51	1.54
6	1.55	1.55	1.56	1.56	1.56	1.54	1.49	1.44	1.36	1.29	1.24	1.15
7	1.05	0.94	0.85	0.82	0.83	0.84	0.81	0.80	0.77	0.75	0.73	0.67
8	0.64	0.65	0.68	0.80	0.90	0.94	0.98	1.01	1.02	1.04	1.07	1.10
9	1.17	1.21	1.25	1.31	1.37	1.41	1.44	1.46	1.49	1.52	1.56	1.59
10	1.60	1.61	1.62	1.65	1.66	1.65	1.64	1.61	1.61	1.62	1.66	1.71
11	1.72	1.74	1.76	1.79	1.82	1.85	1.87	1.88	1.91	1.91	1.93	1.95
12	1.96	1.95	1.96	1.96	1.98	1.99	2.00	1.99	1.99	2.01	2.03	2.05
13	2.02	2.02	2.02	2.02	2.03	2.02	2.02	2.01	1.99	1.99	2.01	1.99
14	1.96	1.94	1.92	1.92	1.92	1.92	1.91	1.89	1.88	1.87	1.89	1.89
15	1.87	1.85	1.85	1.85	1.86	1.86	1.85	1.83	1.82	1.82	1.83	1.82
16	1.81	1.79	1.78	1.78	1.78	1.76	1.75	1.72	1.72	1.71	1.72	1.71
17	1.69	1.66	1.65	1.65	1.65	1.62	1.59	1.55	1.52	1.49	1.47	1.45
18	1.39	1.34	1.29	1.29	1.28	1.26	1.27	1.27	1.29	1.32	1.37	1.40
19	1.42	1.44	1.47	1.54	1.58	1.59	1.61	1.63	1.65	1.66	1.69	1.69
20	1.68	1.65	1.64	1.65	1.66	1.64	1.62	1.61	1.59	1.59	1.58	1.58
21	1.56	1.52	1.51	1.52	1.52	1.51	1.49	1.48	1.48	1.48	1.49	1.49
22	1.49	1.49	1.48	1.46	1.49	1.54	1.58	1.61	1.65	1.69	1.75	1.75
23	1.76	1.79	1.81	1.86	1.91	1.93	1.93	1.92	1.92	1.93	1.95	1.98
24	1.96	1.93	1.91	1.91	1.89	1.89	1.85	1.83	1.81	1.75	1.75	1.71
25	1.68	1.66	1.64	1.68	1.69	1.71	1.69	1.69	1.71	1.69	1.68	1.66
26	1.64	1.62	1.61	1.59	1.58	1.56	1.54	1.52	1.51	1.50	1.52	1.54
27	1.52	1.52	1.55	1.59	1.62	1.66	1.69	1.71	1.72	1.75	1.78	1.81
28	1.80	1.79	1.79	1.82	1.83	1.83	1.82	1.80	1.78	1.76	1.75	1.74
29	1.69	1.66	1.65	1.67	1.66	1.66	1.64	1.61	1.58	1.56	1.56	1.62
30	1.64	1.66	1.68	1.75	1.78	1.82	1.85	1.88	1.89	1.91	1.93	1.93
31	1.91	1.91	1.89	1.89	1.88	1.86	1.85	1.82	1.79	1.79	1.78	1.75
Mean	29.639	29.627	29.621	29.638	29.650	29.653	29.648	29.638	29.634	29.634	29.646	29.649

BAROGRAPH.

NOVEMBER, 1857.

28 inches +.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.71	1.65	1.61	1.59	1.56	1.54	1.52	1.49	1.47	1.46	1.48	1.48
2	1.48	1.46	1.46	1.48	1.48	1.49	1.48	1.47	1.46	1.48	1.50	1.52
3	1.54	1.55	1.56	1.59	1.62	1.64	1.64	1.64	1.64	1.62	1.64	1.64
4	1.62	1.62	1.64	1.65	1.66	1.66	1.66	1.66	1.66	1.67	1.69	1.68
5	1.66	1.65	1.65	1.66	1.68	1.69	1.70	1.71	1.71	1.72	1.75	1.78
6	1.79	1.81	1.83	1.88	1.89	1.92	1.93	1.95	1.95	1.96	2.01	2.02
7	2.01	2.01	2.03	2.07	2.08	2.10	2.10	2.11	2.12	2.12	2.13	2.15
8	2.14	2.13	2.13	2.15	2.16	2.17	2.16	2.17	2.16	2.16	2.16	2.18
9	2.18	2.16	2.16	2.18	2.19	2.20	2.20	2.22	2.22	2.23	2.25	2.27
10	2.29	2.30	2.35	2.36	2.39	2.40	2.42	2.42*	2.43*	2.45*	2.49*	2.49*
11	2.49*	2.49*	2.50*	2.51*	2.54*	2.54*	2.54*	2.55*	2.56*	2.56*	2.57*	2.58*
12	2.56*	2.54*	2.53*	2.52*	2.51*	2.49*	2.47*	2.44*	2.42	2.40	2.37	2.36
13	2.32	2.27	2.25	2.25	2.25	2.25	2.25	2.22	2.21	2.19	2.19	2.19
14	2.17	2.15	2.12	2.12	2.10	2.07	2.05	2.03	2.05	2.08	2.13	2.16
15	2.15	2.13	2.13	2.14	2.13	2.10	2.08	2.05	2.02	2.01	2.02	2.03
16	2.01	2.00	2.00	2.01	2.02	2.02	2.01	1.98	1.96	1.95	1.95	1.94
17	1.92	1.92	1.93	1.95	1.96	1.99	2.02	2.02	2.03	2.03	2.05	2.05
18	2.03	2.02	2.02	2.03	2.05	2.06	2.06	2.06	2.06	2.06	2.09	2.10
19	2.09	2.09	2.09	2.09	2.09	2.09	2.08	2.07	2.06	2.06	2.09	2.10
20	2.09	2.08	2.10	2.13	2.15	2.16	2.15	2.15	2.13	2.14	2.15	2.16
21	2.13	2.10	2.10	2.10	2.10	2.09	2.06	2.05	2.03	2.01	1.99	1.98
22	1.93	1.88	1.83	1.81	1.76	1.69	1.62	1.52	1.44	1.34	1.32	1.35
23	1.33	1.30	1.27	1.26	1.24	1.20	1.17	1.12	1.08	1.05	1.04	1.05
24	1.05	1.07	1.12	1.18	1.23	1.28	1.29	1.32	1.33	1.34	1.37	1.39
25	1.39	1.39	1.42	1.45	1.45	1.45	1.44	1.42	1.38	1.34	1.35	1.37
26	1.37	1.37	1.41	1.46	1.51	1.56	1.62	1.66	1.71	1.74	1.79	1.83
27	1.86	1.89	1.93	1.96	1.99	2.01	1.99	1.99	1.98	1.96	1.99	2.01
28	1.98	1.98	1.98	1.98	1.99	1.99	1.99	1.99	1.98	1.98	1.99	1.98
29	1.94	1.91	1.89	1.88	1.88	1.86	1.85	1.81	1.78	1.75	1.75	1.75
30	1.68	1.66	1.65	1.65	1.64	1.64	1.64	1.62	1.62	1.61	1.62	1.65
Mean	29.897	29.887	29.890	29.902	29.909	29.911	29.906	29.898	29.888	29.883	29.897	29.907

* Interpolated from eye observations.

BAROGRAPH.

DECEMBER, 1857.

28 inches +.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.	in.
1	1.65	1.65	1.66	1.69	1.71	1.75	1.79	1.79	1.80	1.80	1.82	1.83
2	1.83	1.82	1.81	1.79	1.78	1.75	1.71	1.65	1.59	1.56	1.54	1.54
3	1.52	1.49	1.49	1.51	1.52	1.54	1.56	1.58	1.62	1.69	1.75	1.81
4	1.83	1.84	1.86	1.89	1.89	1.90	1.89	1.88	1.88	1.91	1.95	1.98
5	1.99	2.01	2.03	2.07	2.08	2.09	2.08	2.08	2.07	2.09	2.13	2.16
6	2.16	2.15	2.18	2.18	2.19	2.19	2.20	2.20	2.20	2.19	2.20	2.19
7	2.19	2.16	2.15	2.18	2.25	2.30	2.35	2.40	2.44*	2.46*	2.48*	2.50*
8	2.49*	2.45*	2.44*	2.42	2.40	2.39	2.35	2.32	2.29	2.25	2.22	2.22
9	2.19	2.15	2.14	2.13	2.13	2.13	2.12	2.12	2.12	2.13	2.15	2.16
10	2.16	2.17	2.19	2.22	2.23	2.26	2.26	2.27	2.29	2.30	2.33	2.36
11	2.36	2.33	2.34	2.39	2.42	2.43*	2.46*	2.47*	2.49*	2.50*	2.51*	2.52*
12	2.52*	2.52*	2.51*	2.50*	2.49*	2.49*	2.47*	2.45*	2.46*	2.46*	2.45*	2.45*
13	2.43*	2.41	2.37	2.35	2.32	2.30	2.29	2.26	2.23	2.21	2.19	2.19
14	2.15	2.10	2.08	2.05	2.03	2.00	1.98	1.96	1.95	1.93	1.93	1.95
15	1.93	1.92	1.91	1.91	1.91	1.91	1.91	1.89	1.89	1.89	1.89	1.89
16	1.88	1.86	1.89	1.91	1.92	1.92	1.93	1.93	1.92	1.91	1.93	1.93
17	1.93	1.93	1.94	1.96	1.99	2.00	1.96	1.98	1.96	1.96	1.96	1.95
18	1.88	1.82	1.78	1.75	1.78	1.79	1.82	1.83	1.86	1.89	1.91	1.93
19	1.94	1.94	1.96	1.97	1.98	1.96	1.95	1.92	1.89	1.84	1.79	1.74
20	1.66	1.65	1.69	1.76	1.76	1.78	1.81	1.81	1.81	1.81	1.82	1.85
21	1.86	1.86	1.88	1.88	1.91	1.92	1.92	1.93	1.93	1.93	1.95	1.96
22	1.97	1.98	2.01	2.03	2.08	2.08	2.09	2.10	2.10	2.12	2.15	2.18
23	2.18	2.16	2.18	2.19	2.21	2.22	2.22	2.22	2.22	2.22	2.23	2.25
24	2.24	2.21	2.21	2.19	2.18	2.16	2.13	2.10	2.08	2.06	2.08	2.12
25	2.12	2.14	2.16	2.18	2.22	2.23	2.23	2.23	2.23	2.22	2.22	2.22
26	2.19	2.18	2.16	2.18	2.18	2.19	2.19	2.20	2.21	2.21	2.23	2.26
27	2.25	2.23	2.23	2.25	2.25	2.26	2.26	2.26	2.27	2.26	2.28	2.30
28	2.28	2.30	2.29	2.30	2.31	2.32	2.32	2.33	2.32	2.32	2.33	2.35
29	2.35	2.35	2.35	2.36	2.37	2.39	2.37	2.37	2.37	2.37	2.39	2.40
30	2.39	2.37	2.36	2.37	2.39	2.40	2.39	2.38	2.37	2.36	2.36	2.36
31	2.32	2.30	2.30	2.30	2.32	2.33	2.32	2.31	2.30	2.29	2.30	2.32
Mean	30.091	30.078	30.083	30.091	30.104	30.106	30.106	30.104	30.101	30.103	30.112	30.124

* Interpolated from eye observations.

THERMOGRAPH.

JANUARY, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
1856.	o	o	o	o	o	o	o	o	o	o	o	o
Dec. 31	...	...	...	...	...	...	(49.7)	(48.9)	(49.3)	(46.9)	(45.7)	(46.5)
1857.												
Jan. 1	48.9	49.7	48.5	47.3	47.3	47.7	49.3	49.7	47.7	44.5	44.5	42.5
2	44.9	46.5	42.5	40.5	39.7	40.9	41.3	42.1	43.7	44.9	48.1	48.5
3	48.5	48.1	44.5	40.1	41.3	41.3	41.7	41.3	40.5	40.1	39.3	39.7
4	41.7	40.5	40.9	40.9	38.0	37.2	36.8	35.6	36.4	35.2	33.5	31.9
5	36.4	40.9	37.2	33.5	29.9	26.6	25.8	27.0	28.6	30.3	31.9	32.7
6	34.0	34.8	34.8	33.1	33.1	33.1	32.7	32.7	32.3	29.0	28.6	31.5
7	32.3	33.1	32.3	31.9	31.9	31.9	31.5	31.9	31.9	32.7	33.1	34.4
8	36.4	37.2	37.6	37.6	38.0	38.0	38.0	36.8	34.8	38.5	38.0	42.1
9	45.3	46.9	47.7	47.3	47.7	48.9	49.3	50.2	50.2	48.5	47.3	49.3
10	50.2	50.2	46.9	44.9	46.1	46.5	45.7	44.9	44.9	43.7	45.3	44.1
11	43.3	43.7	45.7	44.9	43.3	42.1	39.7	39.3	34.8	33.5	33.1	35.6
12	36.4	38.0	37.6	35.6	33.5	32.3	31.9	36.0	34.0	32.7	31.5	34.0
13	35.2	35.6	34.8	34.0	37.6	36.8	37.2	36.4	35.2	34.0	33.1	34.0
14	36.0	37.2	37.6	34.0	34.8	26.6	25.0	29.9	32.3	34.0	35.6	36.8
15	39.3	40.5	42.9	39.3	38.9	38.9	34.4	34.4	33.5	33.1	33.5	36.8
16	43.3	44.7	43.7	40.1	38.0	38.5	34.8	34.0	33.5	34.4	34.8	37.2
17	39.3	42.9	42.5	42.9	42.1	44.5	45.7	45.7	46.1	45.7	46.1	47.3
18	48.9	49.3	48.9	46.9	46.1	47.3	47.3	48.1	48.5	48.5	46.1	47.3
19	48.1	48.5	47.3	40.1	36.8	36.8	35.2	35.2	36.8	38.5	40.5	44.1
20	44.1	34.8	34.0	34.0	34.0	34.0	31.5	29.9	29.5	28.6	27.0	29.0
21	33.1	37.2	36.0	32.3	34.0	37.6	38.0	38.0	38.0	36.8	36.0	36.0
22	39.7	39.3	38.5	38.0	40.5	42.5	43.3	38.0	38.0	36.8	40.5	40.5
23	42.9	42.9	40.9	35.6	35.2	34.8	35.2	37.2	38.0	38.9	40.1	40.1
24	41.7	42.1	41.7	38.0	38.0	38.0	38.0	36.8	37.2	36.8	37.2	37.2
25	38.0	36.8	38.0	36.8	34.0	34.8	34.8	35.2	34.8	34.8	33.5	32.3
26	34.0	36.4	35.2	33.5	32.7	31.9	33.5	32.7	31.9	30.7	32.7	30.7
27	(34.8)	(36.0)	(35.6)	...	...	*(27.5)	(34.0)	...	...	...	...	*(28.0)
28	...	(35.6)	(34.4)	(31.5)	(30.3)	(29.5)	...	...	...	...	...	*(22.7)
29	...	...	...	...	...	*(21.5)	...	...	...	...	...	(29.9)
30	32.7	34.0	33.1	34.8	35.2	35.2	36.8	35.6	33.5	33.5	32.7	32.3
31	(36.8)	(38.0)	(37.2)	(33.5)	(32.7)	(32.3)	(36.4)	(37.6)	...	...	...	(31.1)
Mean of 27 days	40.5	41.3	40.4	38.4	38.1	37.8	37.6	37.6	37.3	37.0	37.2	38.1

Reduction to Standard Thermometer -- 1° 0.

* Eye observations.

HYGROGRAPHY.

JANUARY, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
1856.	0	0	0	0	0	0	0	0	0	0	0	0
Dec. 31	...	...	...	...	...	...	(48.9)	(49.3)	(48.9)	(47.3)	(46.1)	(46.9)
1857.												
Jan. 1	48.2	47.2	46.3	45.3	45.8	47.2	48.6	49.1	46.3	43.4	42.9	39.6
2	42.4	41.5	39.6	38.2	37.7	39.1	39.6	40.5	42.0	43.4	47.7	45.3
3	44.3	42.9	40.5	37.7	38.2	38.2	38.2	37.7	37.7	37.7	37.3	38.7
4	39.6	38.7	40.1	39.1	36.8	35.8	36.3	34.9	34.4	32.5	32.1	31.1
5	30.1	31.1	29.6	27.8	26.3	25.9	27.8	28.7	29.2	30.1	31.6	32.5
6	32.5	32.5	32.5	31.6	30.6	31.6	32.1	32.5	32.1	29.6	27.8	30.6
7	31.6	32.1	31.6	30.6	30.6	30.6	30.6	31.6	30.6	32.1	32.1	33.0
8	34.9	35.4	37.3	36.3	37.3	37.3	37.3	35.8	34.4	37.7	37.3	40.5
9	44.3	45.8	46.8	46.3	46.8	47.7	48.2	48.6	48.2	46.8	45.8	47.2
10	46.8	45.8	44.3	42.9	44.3	45.3	45.3	43.8	44.3	43.4	42.9	41.0
11	41.0	42.0	43.4	42.4	41.0	40.1	37.7	37.3	34.0	33.5	31.6	34.9
12	35.4	36.3	35.4	34.4	33.0	32.5	31.1	34.9	33.5	33.0	32.1	33.5
13	34.0	34.4	33.5	33.0	35.4	34.9	34.9	34.4	32.1	30.6	29.6	30.6
14	32.1	33.0	33.5	29.6	25.9	25.9	25.9	27.3	30.6	32.1	33.5	35.4
15	38.7	39.6	41.5	38.2	37.3	37.7	33.5	33.5	32.5	32.5	32.1	35.4
16	40.5	41.5	40.1	37.7	36.3	36.3	33.5	33.0	32.5	33.5	33.5	36.3
17	38.2	41.0	41.0	41.5	41.0	43.4	44.3	44.3	44.8	44.8	44.8	46.3
18	47.7	47.7	47.2	45.8	44.8	45.8	46.8	47.2	47.7	47.2	44.8	45.3
19	45.3	44.8	44.3	38.7	35.4	35.4	33.5	34.0	35.4	37.3	38.7	41.5
20	42.0	33.5	33.5	33.5	33.5	33.0	31.1	30.1	28.7	27.8	28.2	29.2
21	31.6	35.4	34.9	32.5	33.0	35.4	36.3	36.8	36.8	35.4	34.9	34.4
22	36.8	37.3	36.3	36.3	36.8	39.6	41.5	40.5	36.3	35.4	34.9	37.3
23	39.1	38.7	36.3	34.0	32.5	33.5	34.0	35.4	36.3	37.3	37.7	37.7
24	38.7	38.7	37.3	36.3	35.8	35.4	35.4	35.4	35.4	35.4	34.9	35.8
25	35.8	35.4	36.3	35.4	34.4	33.5	33.0	34.0	33.0	32.1	32.1	33.0
26	34.0	34.4	33.0	32.5	32.1	31.6	31.6	31.6	30.6	30.1	29.6	31.1
27	34.0	32.1	32.1	29.6	28.2	26.8	26.3	25.4	24.5	22.6	24.5	29.2
28	32.1	32.5	32.1	30.6	30.1	29.6	27.3	26.3	25.5	20.2	* 21.6	* 23.0
29	...	(29.6)	(29.2)	...	...	*(22.0)	...	...	...	...	...	*(29.7)
30	29.6	30.6	32.1	32.5	34.0	33.0	35.4	34.4	33.5	33.0	32.5	31.6
31	(34.4)	(35.4)	(34.0)	(32.1)	(30.6)	(29.6)	(30.1)	(28.7)	...	...	...	(29.6)
Mean of 29 days.	38.0	38.0	37.6	35.8	35.7	35.9	35.7	35.8	35.3	34.8	34.5	35.9

Reduction to Standard + 0°.4.

* Eye observations.

THERMOGRAPH.

FEBRUARY, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	o	o	o	o	o	o	o	o	o	o	o	o
1	34.0	35.2	36.0	35.2	34.0	32.3	30.7	29.9	31.5	32.7	34.0	34.8
2	(36.8)	(37.2)	(36.4)	(34.8)	...	(32.3)	(32.3)	(31.9)	(30.7)	...	...	(27.8)
3	...	...	...	...	...	*(27.2)	...	...	...	...	...	(30.7)
4	(32.7)	(33.5)	(33.1)	...	...	*(23.7)	...	...	...	...	...	(32.7)
5	34.8	36.0	36.0	36.4	38.0	38.9	39.3	40.1	40.9	41.7	41.7	42.9
6	46.1	49.9	46.1	41.7	43.3	43.3	44.5	44.5	43.7	43.3	43.3	44.1
7	44.9	44.9	43.3	42.9	42.1	42.1	41.7	41.7	42.1	42.1	42.5	43.3
8	43.7	42.1	42.9	42.9	44.1	42.9	43.3	43.3	42.1	40.5	39.7	42.1
9	45.3	46.5	45.3	43.7	44.1	44.5	46.1	46.9	42.1	39.7	38.5	42.9
10	46.9	48.1	45.7	42.9	42.1	38.9	36.8	38.0	40.5	40.5	41.7	44.9
11	(47.7)	(47.3)	(45.7)	(44.1)	(43.3)	(44.1)	(42.9)	(40.1)	...	...	...	(40.9)
12	44.9	46.9	46.5	40.1	38.9	35.6	34.0	33.5	32.3	34.0	34.4	37.6
13	42.1	44.5	46.1	40.1	37.6	36.4	35.2	36.8	35.6	37.6	37.6	39.7
14	42.1	42.5	43.3	36.0	34.9	31.9	29.9	31.9	33.5	35.2	35.2	36.0
15	39.7	41.3	41.3	40.1	38.0	38.9	38.0	35.2	33.5	29.9	29.9	34.8
16	48.9	52.6	51.8	47.7	43.7	43.7	42.1	38.9	42.1	43.7	41.7	45.3
17	51.4	51.4	50.2	48.1	46.1	45.7	42.9	40.9	42.9	43.3	44.9	48.1
18	51.0	50.2	48.1	45.7	45.3	45.7	44.9	40.1	41.7	41.7	42.5	42.1
19	48.5	48.9	48.1	44.9	44.1	43.3	42.5	41.7	41.3	39.7	40.9	42.5
20	44.9	48.1	46.9	45.7	41.0	39.7	38.9	36.4	36.0	37.2	39.7	43.3
21	46.5	49.3	49.3	47.7	46.1	44.5	44.1	43.3	43.3	43.3	43.7	46.5
22	49.3	51.4	50.2	46.5	43.3	42.1	40.1	38.9	37.2	34.0	32.3	38.9
23	46.9	50.2	51.4	44.9	42.1	40.1	37.2	34.0	36.0	38.0	37.2	40.1
24	44.1	48.1	51.0	46.5	43.7	41.7	35.6	32.7	30.3	30.7	32.3	36.8
25	38.9	42.1	44.1	42.1	40.9	38.0	37.2	36.0	32.7	29.9	30.3	35.2
26	42.1	45.7	46.5	40.5	37.6	35.6	37.8	38.0	36.4	36.0	37.6	41.3
27	47.3	48.1	48.1	46.5	44.9	44.9	44.5	44.1	44.1	44.1	45.3	46.9
28	52.6	55.0	54.6	50.6	41.7	41.7	39.7	40.1	38.0	38.0	38.5	40.1
Mean of 24 days.	44.9	46.6	46.4	43.3	41.4	40.5	39.5	38.6	38.3	38.2	38.6	41.3

Reduction to the Standard Thermometer — 0°.8.

* Eye observations.

HYGROGRAPH.

FEBRUARY, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	32.1	34.4	34.9	34.0	33.0	32.5	30.6	28.7	29.6	31.6	32.5	34.0
2	35.8	36.3	35.4	33.0	32.5	32.1	32.1	31.1	30.1	29.2	28.2	28.2
3	(29.6)	(30.6)	(29.6)	(27.8)	(27.3)	(27.3)	(28.2)	(28.2)	...	...	...	(29.2)
4	(32.1)	(34.0)	(34.0)	(28.2)	(29.2)	(23.5)	(24.5)	(23.5)	(24.5)	...	...	(32.7)
5	34.0	34.9	35.4	35.8	37.3	38.7	39.1	39.6	40.5	41.0	41.5	42.4
6	45.3	46.8	45.3	41.5	42.4	42.4	43.8	43.8	43.2	42.4	42.4	42.9
7	42.0	42.0	40.5	40.5	40.7	41.0	40.5	40.5	40.5	40.5	41.0	41.5
8	42.0	41.0	42.0	41.5	42.4	41.5	41.5	41.5	40.5	39.1	37.3	38.2
9	41.0	42.0	40.5	40.1	41.0	42.4	43.8	44.8	39.6	37.7	36.8	41.5
10	43.4	44.3	42.9	41.5	40.5	37.7	35.4	35.8	37.7	39.1	40.1	43.4
11	43.8	43.4	42.0	42.0	41.5	41.5	37.7	35.4	33.0	31.6	31.6	35.4
12	40.1	40.5	41.0	37.7	35.4	34.0	32.5	32.1	31.1	33.0	33.5	35.8
13	39.6	41.0	41.5	37.7	35.8	34.9	34.0	35.4	33.5	35.4	35.4	37.3
14	39.1	39.6	40.1	35.8	30.6	30.6	28.2	30.1	32.5	34.0	34.0	34.9
15	37.3	39.1	39.6	39.1	36.8	37.3	37.3	34.4	32.5	31.6	30.1	34.9
16	46.3	49.1	47.7	43.8	41.5	41.5	40.1	39.1	41.0	42.0	40.5	43.8
17	48.6	49.1	49.1	47.2	45.3	44.3	42.4	41.0	42.0	42.4	43.8	46.8
18	49.1	47.2	46.8	44.8	44.8	44.8	44.3	38.7	41.0	39.6	42.0	41.5
19	(46.3)	(46.3)	(45.8)	(43.8)	...	(41.7)	...	...	...	...	...	(41.5)
20	* 42.4	43.8	43.4	42.9	40.5	38.7	37.7	35.8	35.4	36.3	39.1	42.4
21	44.8	46.3	46.3	45.3	44.8	43.4	42.9	42.4	42.4	42.4	42.4	44.8
22	45.3	46.8	45.8	43.8	41.5	40.5	39.1	37.7	36.3	33.5	31.6	37.7
23	(44.8)	(47.2)	...	...	...	(38.5)	...	...	...	...	...	(37.8)
24	* 43.8	44.8	46.3	43.8	41.0	40.1	35.4	32.5	29.6	30.1	31.1	36.3
25	37.7	40.1	42.4	42.0	40.1	37.3	36.3	35.4	32.1	30.1	30.1	33.0
26	39.6	41.0	41.0	38.7	35.8	34.4	35.4	35.4	34.0	34.0	35.8	39.1
27	43.4	44.3	44.8	44.3	43.8	43.4	43.8	43.8	43.4	43.4	44.3	45.8
28	49.6	49.6	49.6	48.2	41.0	40.5	39.1	39.6	37.7	37.7	38.2	40.1
Mean of 24 days.	42.0	42.7	42.7	41.1	39.6	39.0	38.1	37.3	36.6	36.5	36.8	39.2

Reduction to Standard — 0°.6.

* Eye observations.

THERMOGRAPH.

MARCH, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	47.7	51.8	51.4	51.0	50.2	50.2	48.5	48.1	47.3	46.9	46.1	46.9
2	48.9	48.5	48.1	48.1	45.7	44.9	44.1	43.3	42.5	42.5	42.1	43.7
3	44.9	45.7	46.1	44.1	41.3	39.7	38.9	39.7	40.9	41.7	42.9	45.3
4	48.5	48.1	47.7	44.9	42.1	39.3	36.4	35.2	33.5	31.5	31.9	38.0
5	42.5	44.5	42.9	42.9	42.9	43.3	44.9	45.3	45.7	45.7	46.1	48.1
6	51.4	52.6	52.2	51.0	45.3	42.9	40.9	41.7	39.3	38.9	40.5	45.7
7	51.4	51.4	48.9	49.7	42.9	41.3	39.7	38.0	37.2	38.0	41.7	44.1
8	38.9	42.5	37.2	37.6	34.0	34.0	33.1	34.4	35.2	36.0	37.6	40.1
9	42.1	40.1	34.0	34.4	31.5	32.3	30.7	30.7	29.5	27.4	31.1	35.2
10	38.5	38.9	39.7	37.2	36.0	35.6	34.8	33.5	30.7	29.9	33.1	36.0
11	38.5	39.7	38.0	36.4	33.1	31.9	32.3	31.9	28.2	30.7	33.1	36.0
12	41.3	44.1	45.7	42.5	40.5	38.0	36.0	36.4	35.6	35.2	36.0	39.3
13	41.7	40.9	38.0	38.9	38.0	36.8	36.0	38.9	42.1	42.5	46.9	51.0
14	52.2	51.8	51.4	49.7	46.9	48.5	52.6	47.7	44.9	43.3	41.3	39.3
15	36.4	45.3	42.1	42.1	40.1	38.9	38.9	38.6	38.0	37.2	40.1	42.0
16	45.3	51.0	51.0	47.7	42.9	40.9	39.7	37.6	37.2	37.2	40.9	47.3
17	(51.0)	(53.0)	(50.2)	(47.3)	(44.5)	*(42.1)	...	...	...	...	...	(50.2)
18	55.0	59.5	58.2	55.4	51.4	50.2	49.7	48.5	48.1	44.9	43.7	44.5
19	47.3	49.7	51.4	52.6	51.0	51.0	50.2	50.2	50.6	50.2	50.6	51.4
20	52.2	51.0	48.1	46.5	44.1	41.3	40.5	38.9	36.0	34.8	34.8	36.0
21	(39.3)	(41.3)	(39.7)	(35.2)	(30.7)	*(30.5)	...	(32.7)	...	...	...	*(35.0)
22	...	...	...	(36.0)	...	*(32.7)	(34.4)	...	...	...	...	*(37.0)
23	39.7	40.1	41.7	37.6	34.8	31.9	32.7	33.5	32.7	34.0	35.6	40.1
24	44.5	45.7	44.5	42.9	39.7	39.3	39.7	40.1	40.9	40.5	41.3	42.1
25	43.3	42.1	43.3	40.1	38.0	38.0	35.6	33.1	32.3	30.7	33.5	39.7
26	45.7	47.7	48.1	47.7	44.1	42.9	42.5	42.5	41.3	40.1	43.3	44.9
27	46.9	46.1	46.1	46.5	44.1	43.3	42.1	41.7	40.9	40.1	43.7	46.1
28	50.2	51.0	50.6	48.9	46.5	44.5	43.7	42.5	43.3	42.9	44.5	47.3
29	49.3	48.1	47.7	48.1	46.1	45.7	45.3	44.9	44.9	46.1	47.7	50.6
30	51.8	48.9	47.3	46.5	44.9	44.9	44.1	44.1	43.7	43.3	43.9	46.9
31	47.7	49.7	51.8	48.1	46.1	46.5	42.9	42.5	40.5	40.9	43.3	49.3
Mean of 28 days.	45.9	47.0	46.2	44.9	42.3	41.4	40.6	40.1	39.5	40.6	39.5	43.4

Reduction to Standard Thermometer — 0°.4.

* Eye observations.

HYGROGRAPH.

MARCH, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	o	o	o	o	o	o	o	o	o	o	o	o
1	46.3	49.6	49.6	49.6	48.6	48.6	47.7	47.2	46.8	46.8	45.3	45.8
2	47.2	46.8	45.8	46.3	44.3	42.4	41.5	40.5	40.1	40.1	40.1	41.0
3	42.0	42.9	43.4	42.0	40.1	38.7	38.7	39.1	40.1	40.5	41.5	43.4
4	(45.3)	(46.3)	...	...	...	(36.3)	...	...	...	...	...	(35.4)
5	38.7	40.5	39.6	39.8	40.1	41.5	43.8	44.3	45.3	45.3	45.3	44.3
6	45.3	45.8	45.8	45.8	42.4	41.0	39.1	40.5	38.2	38.2	39.1	42.4
7	44.8	44.8	45.3	44.8	40.1	38.5	38.2	36.8	35.8	36.3	39.6	40.1
8	35.8	36.3	34.0	34.9	32.1	32.1	32.1	33.0	33.5	34.0	34.4	35.4
9	36.3	36.8	34.0	33.5	31.6	32.1	31.1	31.1	29.6	28.2	30.6	34.4
10	34.9	35.4	34.9	34.0	33.0	32.5	32.5	32.1	28.7	29.2	30.6	33.0
11	34.9	35.8	35.4	34.9	31.6	31.1	30.6	31.1	28.7	29.6	31.6	34.4
12	39.6	40.5	41.5	41.0	37.7	36.3	34.9	35.4	35.4	34.4	35.4	37.3
13	39.6	38.7	36.8	37.7	37.3	36.3	34.9	38.2	40.5	41.0	45.8	45.3
14	45.8	43.8	43.8	44.8	46.3	48.2	51.0	45.8	42.4	40.5	38.2	36.8
15	35.4	40.1	39.6	38.7	37.7	36.8	37.7	37.3	37.3	36.3	38.2	43.4
16	44.8	46.3	46.8	44.8	41.0	40.1	39.1	36.8	36.3	35.8	38.7	42.9
17	45.8	48.6	48.6	47.2	44.8	43.4	41.0	38.2	37.3	40.5	43.4	47.7
18	51.0	55.2	53.8	52.0	49.6	49.1	47.7	47.7	47.2	42.4	41.5	42.4
19	44.8	47.7	51.0	52.0	50.6	51.0	50.6	51.0	51.5	51.0	51.5	52.0
20	(52.4)	(52.0)	(48.2)	(46.3)	...	(40.1)	(38.7)	(37.7)	...	...	...	(32.5)
21	...	...	...	...	...	(28.3)	...	...	...	...	...	(34.0)
22	...	...	...	(36.8)	...	(34.4)	(34.9)	(34.4)	(33.0)	...	...	(35.0)
23	(37.3)	...	...	...	...	(32.0)	...	...	...	...	...	(38.3)
24	* 38.9	39.6	38.7	37.3	33.5	34.0	37.7	37.7	38.2	37.7	39.1	40.1
25	41.5	41.0	44.3	39.6	37.3	36.3	34.9	32.5	31.6	30.6	33.5	37.3
26	41.0	42.4	42.9	43.4	42.0	41.0	41.0	41.0	39.6	39.1	40.5	41.5
27	42.4	42.9	43.8	43.8	42.4	42.0	41.0	40.5	40.1	39.1	42.0	43.4
28	44.8	45.8	45.8	45.3	43.4	42.4	41.0	40.5	41.0	42.0	43.4	45.8
29	46.3	46.3	45.8	46.3	43.8	43.4	43.4	42.9	43.8	44.8	46.8	47.7
30	48.6	46.8	45.3	44.8	43.4	43.4	42.9	42.9	42.9	42.9	43.4	44.8
31	45.8	46.8	46.8	46.3	44.3	44.8	42.0	41.5	40.1	40.1	42.0	45.8
Mean of 26 days.	42.4	43.3	43.2	42.5	40.7	40.3	39.8	39.4	38.9	38.7	40.1	41.9

Reduction to Standard + 0°.7.

* Eye observation.

THERMOGRAPH.

APRIL, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
1	51.4	51.8	51.4	49.7	45.7	45.3	45.7	45.7	46.1	45.7	47.7	47.3
2	51.0	51.4	53.0	51.0	49.3	47.3	46.9	46.9	46.9	46.5	48.9	52.2
3	50.6	51.8	50.2	49.2	46.4	46.0	44.4	43.1	42.7	43.1	45.7	49.2
4	51.5	49.9	50.9	51.5	50.9	51.2	51.2	50.6	50.4	50.9	53.4	55.7
5	60.9	63.1	57.9	56.3	54.7	52.8	51.5	51.5	50.9	50.9	52.4	55.1
6	56.0	58.3	58.3	53.8	48.9	48.3	46.7	44.4	44.7	45.7	49.2	53.4
7	57.3	58.9	57.0	53.4	50.9	48.6	45.4	46.0	46.4	45.7	48.9	53.1
8	54.4	54.7	53.1	50.6	48.0	45.0	43.1	42.7	44.1	44.1	47.4	50.6
9	56.6	58.9	57.6	53.8	48.6	44.7	42.1	40.2	38.9	35.7	40.8	53.1
10	58.3	59.9	62.5	56.3	53.4	50.2	48.3	47.7	47.0	43.1	41.2	42.4
11	45.4	47.4	48.6	47.7	42.1	38.6	39.2	36.8	38.3	33.7	38.3	44.1
12	48.6	49.2	45.7	40.5	38.3	37.0	33.0	34.0	32.7	33.4	36.3	37.0
13	38.6	41.2	38.3	36.6	36.3	35.0	35.7	36.3	33.7	34.0	38.0	41.5
14	45.0	47.4	48.6	42.1	37.6	36.6	34.7	33.0	31.2	32.1	38.0	44.4
15	48.6	49.9	48.9	46.0	41.2	38.9	36.0	34.0	33.4	35.7	41.5	44.7
16	47.4	45.4	47.7	43.4	40.2	37.6	36.0	34.7	36.6	37.6	45.7	51.5
17	53.8	56.3	57.9	53.4	49.9	48.0	46.4	46.0	44.7	45.7	51.2	57.6
18	64.8	66.1	66.1	61.5	53.8	53.1	51.8	51.8	49.2	47.7	53.4	58.9
19	59.9	62.1	61.5	58.3	55.1	48.9	46.4	44.7	42.3	41.8	48.3	51.5
20	59.9	60.6	57.6	53.8	50.2	44.7	42.7	40.8	40.2	40.2	50.2	53.1
21	55.1	57.3	58.3	54.4	50.6	48.3	48.0	46.4	44.7	45.0	47.4	49.9
22	51.8	52.8	52.4	48.6	47.6	46.7	44.7	43.4	44.6	40.0	39.9	41.2
23	42.7	45.7	45.4	43.1	40.5	38.0	33.7	31.5	30.5	29.8	36.1	41.5
24	46.0	47.0	45.7	44.1	40.5	39.7	38.4	37.3	36.0	38.0	40.8	42.7
25	43.4	44.1	44.7	43.7	41.2	36.3	35.7	38.9	38.3	36.6	39.9	39.2
26	41.2	42.7	42.3	40.2	38.3	38.0	36.6	36.6	36.6	36.0	37.3	37.3
27	40.5	39.9	40.5	39.9	39.5	38.9	38.3	38.0	37.3	37.6	39.9	41.8
28	44.1	46.0	48.9	44.1	38.0	34.3	33.4	30.5	29.8	29.2	38.9	45.4
29	46.4	49.6	46.4	45.0	43.1	41.5	40.8	38.3	36.0	37.3	42.7	47.0
30	48.0	48.6	47.4	45.4	43.4	42.7	41.5	40.2	39.5	38.8	44.4	48.3
Mean	50.6	51.6	51.3	48.6	45.5	43.4	41.9	41.1	40.4	40.1	44.2	47.7

Reduction to Standard Thermometer 0° .

HYGROGRAPHII.

APRIL, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	45.3	46.3	46.8	46.3	44.3	43.8	43.8	44.3	44.8	44.8	47.2	45.8
2	48.2	48.2	48.2	48.2	47.7	46.3	45.8	45.8	46.3	45.8	47.7	49.1
3	48.3	48.3	47.4	46.4	45.0	44.7	43.1	42.1	42.1	42.4	45.0	47.4
4	49.6	49.2	50.2	50.9	50.2	50.2	50.6	50.2	50.1	50.6	52.1	53.1
5	56.0	55.4	53.1	52.8	52.4	52.1	51.2	51.2	50.6	50.2	51.5	52.4
6	52.8	53.8	53.8	50.6	48.6	47.4	46.4	44.4	44.4	45.0	48.0	50.2
7	52.8	52.8	51.5	50.2	48.9	47.4	44.7	45.4	46.0	45.4	47.0	48.9
8	49.9	49.9	49.6	47.7	46.7	44.4	42.7	42.4	43.4	43.7	46.0	48.9
9	51.2	51.2	50.6	48.3	48.9	43.1	40.8	39.5	38.6	35.0	39.2	47.4
10	50.2	50.6	53.4	49.6	48.6	47.4	46.7	46.4	45.7	41.5	39.5	40.5
11	40.8	40.8	41.2	39.9	36.6	36.6	38.0	36.6	37.3	34.0	37.0	38.9
12	39.9	41.2	39.9	39.2	38.9	38.9	33.0	34.3	32.4	32.8	35.0	36.6
13	36.0	37.6	37.3	35.7	35.3	34.3	35.3	35.0	33.0	33.0	36.0	37.0
14	39.2	40.5	41.2	39.2	37.0	35.3	34.0	33.0	31.5	32.4	37.3	39.9
15	42.1	42.4	43.1	40.8	38.9	37.3	35.0	33.7	33.4	34.3	37.2	42.7
16	42.7	42.7	43.7	41.5	39.2	37.6	36.3	34.7	36.0	39.2	44.1	49.2
17	48.3	49.9	50.2	48.6	46.7	45.4	44.4	44.1	43.1	43.7	47.4	52.1
18	54.4	53.8	54.7	53.1	49.6	49.6	48.9	48.3	46.7	46.4	49.9	52.8
19	52.8	53.8	53.1	51.5	50.2	46.7	45.0	43.4	41.5	41.5	46.7	48.9
20	51.2	51.2	49.9	49.6	45.7	43.7	42.4	40.8	40.5	40.5	46.7	46.7
21	47.4	48.0	48.3	46.7	45.0	43.7	44.4	44.1	44.4	44.4	46.7	48.0
22	48.9	50.6	50.2	47.0	46.0	45.4	43.7	42.9	43.4	39.5	38.9	38.9
23	39.2	41.2	40.2	39.5	36.6	35.3	32.7	31.2	30.2	29.8	34.7	36.6
24	39.9	40.8	40.2	39.5	38.6	38.6	37.3	36.0	35.3	37.3	39.9	39.9
25	39.9	39.2	39.2	38.6	37.0	34.3	35.0	38.0	37.0	34.7	36.0	36.0
26	37.3	38.0	37.6	36.3	35.9	35.3	34.0	34.0	34.0	34.3	35.3	36.0
27	37.3	38.3	38.0	37.6	37.0	36.6	36.3	36.3	36.0	36.1	37.6	38.0
28	38.3	39.9	41.8	39.2	36.0	33.4	32.1	29.5	28.3	28.9	36.6	40.2
29	39.9	40.2	40.2	40.2	39.9	39.5	39.2	37.3	35.3	37.6	40.8	41.5
30	42.1	42.4	42.7	42.7	41.5	40.8	40.2	39.2	38.9	38.3	42.1	44.1
Mean	45.4	45.9	45.9	44.6	43.1	41.8	40.8	40.1	39.7	39.4	42.3	44.2

Reduction to Standard o.o.

THERMOGRAPH.

MAY, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	47.7	51.8	46.0	46.0	43.1	42.4	40.5	37.6	37.3	39.9	44.1	48.3
2	50.2	52.8	51.8	49.2	43.1	39.2	37.0	34.0	32.4	36.6	43.7	45.4
3	46.7	48.6	48.0	46.0	42.1	38.0	35.3	34.3	32.4	39.5	41.8	44.1
4	48.3	50.2	51.5	47.4	41.8	36.6	34.7	34.0	31.8	35.3	42.1	45.0
5	45.4	46.4	47.7	46.7	44.7	41.5	36.0	33.4	31.8	32.4	40.2	45.4
6	45.7	48.0	49.9	48.3	45.0	38.9	35.7	32.4	32.1	35.7	43.4	47.7
7	50.2	49.9	48.9	48.3	47.0	44.7	39.2	35.7	35.0	38.3	41.8	46.0
8	52.1	55.4	56.0	53.4	47.4	42.1	37.3	36.0	37.3	39.2	41.8	50.2
9	57.9	61.5	61.5	61.2	54.7	48.6	44.4	41.2	38.9	39.5	46.0	52.8
10	52.4	51.8	52.4	50.2	48.6	48.9	47.0	46.7	44.4	47.0	49.2	50.2
11	51.2	54.7	57.9	55.7	53.8	51.8	50.9	50.6	47.7	49.6	53.4	57.0
12	57.3	58.6	57.6	57.6	56.0	54.4	53.1	52.8	52.8	53.1	56.0	60.9
13	65.8	67.1	66.1	65.4	61.5	57.9	54.4	54.4	53.4	52.4	58.6	64.8
14	70.0	70.9	70.0	64.4	59.9	55.1	51.8	49.2	48.3	51.5	60.9	61.2
15	67.1	66.1	67.7	65.4	62.8	59.6	57.0	56.3	53.4	52.4	57.9	61.5
16	65.4	69.3	70.3	64.1	57.3	52.4	49.9	48.0	45.4	48.1	55.1	59.9
17	63.1	66.8	68.3	65.1	57.6	52.4	48.6	46.0	45.0	47.0	54.4	62.8
18	67.4	68.0	66.1	62.5	56.0	52.4	50.9	49.2	48.6	51.2	54.7	57.9
19	62.1	66.1	63.1	61.5	57.0	53.8	53.4	52.4	51.5	51.2	54.4	60.6
20	63.4	63.7	61.5	55.7	54.7	54.7	53.1	52.1	52.1	53.1	53.8	56.6
21	55.4	56.0	55.1	52.4	51.8	48.6	46.4	46.0	45.7	46.7	49.6	55.1
22	55.7	57.3	57.0	55.4	52.6	48.9	48.3	43.3	47.7	47.7	48.0	48.9
23	52.1	58.3	59.9	63.1	60.9	58.9	56.6	53.4	52.1	49.9	50.9	57.0
24	61.8	62.8	61.2	58.9	57.0	51.8	49.9	46.0	44.7	49.2	57.0	62.1
25	63.7	68.0	65.1	62.1	57.9	55.1	51.5	48.6	48.0	49.9	54.7	57.9
26	59.9	60.9	61.5	60.6	55.7	52.1	51.2	49.2	48.0	50.9	56.3	59.6
27	62.8	64.1	65.4	62.8	57.9	51.5	47.0	44.1	41.2	48.3	54.7	61.8
28	62.8	64.8	63.7	61.5	56.3	52.8	52.4	51.2	49.2	49.2	51.2	53.8
29	57.3	57.9	59.3	58.9	57.6	54.1	53.1	50.6	50.0	50.6	53.4	56.6
30	61.5	63.7	61.4	59.9	55.1	50.2	47.0	46.7	47.4	49.6	52.4	59.9
31	64.1	65.4	64.1	61.2	55.1	49.6	44.1	41.2	39.5	45.4	52.4	60.3
Mean	57.6	59.2	59.2	57.1	53.3	49.7	47.0	45.2	44.0	46.1	50.7	55.1

Reduction to Standard Thermometer + 0°.5.

HYGROGRAPH.

MAY, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	o	o	o	o	o	o	o	o	o	o	o	o
1	43.7	45.4	43.4	43.1	41.5	40.8	39.9	37.6	37.5	39.9	42.4	44.4
2	44.1	45.7	45.4	43.7	39.9	37.3	35.3	33.4	32.1	35.7	41.2	42.1
3	42.4	44.1	43.1	40.8	39.2	36.0	34.3	34.0	33.4	37.6	39.5	39.9
4	41.8	43.7	43.4	40.5	37.6	35.0	34.1	33.0	31.2	34.3	39.5	40.5
5	40.5	41.8	41.8	41.8	41.2	38.6	35.0	33.0	31.8	32.4	39.2	42.7
6	42.7	44.1	44.4	43.7	41.2	37.3	35.0	32.4	32.1	35.3	41.2	42.4
7	44.4	44.4	44.1	44.1	43.1	41.8	38.3	35.3	35.3	38.3	40.5	42.4
8	45.7	47.4	47.0	45.7	42.4	38.9	36.0	35.7	37.3	38.9	41.2	46.0
9	49.9	51.8	52.8	53.8	47.7	44.1	41.8	39.9	38.6	39.9	44.7	49.6
10	49.2	49.9	49.2	47.7	47.0	47.0	46.0	45.7	45.7	46.7	49.2	49.2
11	50.2	53.1	54.7	53.4	52.1	50.9	50.2	50.6	47.4	48.6	50.9	53.8
12	54.4	55.7	55.4	55.4	54.4	53.1	52.4	52.1	51.8	52.1	53.8	56.3
13	57.9	57.9	57.0	57.0	56.3	54.4	52.1	52.4	52.4	51.8	55.7	58.3
14	61.2	61.2	60.9	58.6	56.0	53.4	50.6	48.9	48.0	50.6	57.3	57.6
15	59.6	60.6	62.5	59.6	58.3	57.0	55.7	55.1	52.4	52.4	56.0	59.3
16	61.2	61.2	59.9	55.4	52.4	49.2	48.6	47.4	45.0	47.4	52.1	53.8
17	54.7	56.0	57.0	56.3	52.1	48.0	46.7	45.4	44.7	47.0	51.8	56.6
18	56.6	59.6	57.9	55.7	53.1	50.6	48.6	47.4	47.7	49.6	52.4	54.1
19	55.1	57.9	56.6	56.6	54.7	52.4	51.8	50.9	49.9	48.9	51.5	54.4
20	55.4	57.0	55.1	52.1	51.5	51.5	50.6	50.2	50.2	51.2	51.8	53.4
21	53.4	53.4	53.1	50.9	49.6	48.0	45.7	45.7	45.4	46.4	48.6	50.6
22	50.6	50.9	50.9	50.6	49.2	47.7	47.0	47.7	46.4	47.0	47.4	48.6
23	51.2	55.7	54.4	58.9	58.3	57.0	54.4	52.1	51.8	48.9	48.9	51.5
24	...	...	...	...	...	*(48.7)	...	...	...	...	...	*(55.5)
25	...	...	...	...	...	*(53.5)	...	...	...	...	...	*(54.0)
26	* 55.1	56.3	56.0	54.7	51.5	49.9	49.2	47.7	47.4	50.6	54.1	55.1
27	56.6	56.6	56.3	53.4	52.8	49.9	46.7	43.7	41.8	46.7	52.1	56.0
28	56.6	57.0	57.6	56.3	53.8	51.2	51.2	50.2	48.3	48.3	49.2	51.2
29	53.1	53.1	54.1	54.4	54.1	49.6	48.9	48.0	48.0	48.3	49.9	49.9
30	53.1	53.1	54.1	52.4	51.2	48.0	45.7	45.4	45.7	47.4	49.9	53.4
31	53.8	52.1	53.1	51.5	48.3	46.3	43.4	40.2	* 41.0	41.8	47.4	52.4
Mean of 29 days.	51.5	52.6	52.5	51.3	49.3	47.1	45.4	44.2	43.5	45.0	48.3	50.5

Reduction to Standard $\pm 0^{\circ}.4$.

* Eye observations.

THERMOGRAPH.

JUNE, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	63.1	63.1	63.1	59.9	53.8	50.6	46.4	41.8	40.5	47.4	58.6	64.1
2	60.3	58.6	58.3	59.9	58.3	54.4	51.2	51.5	51.5	53.1	55.7	63.1
3	66.4	69.6	65.4	59.6	58.9	57.0	55.7	54.7	55.1	56.6	59.9	65.4
4	67.4	69.0	71.2	70.3	63.7	58.6	55.7	54.1	54.1	58.9	63.4	74.5
5	78.0	78.7	77.7	73.1	67.1	63.7	62.5	60.9	59.9	63.4	66.8	69.6
6	72.8	73.1	71.8	72.2	69.0	64.8	63.4	62.5	61.2	61.2	60.9	61.5
7	63.1	68.0	66.4	63.4	60.6	57.6	55.7	54.4	53.4	55.7	57.3	60.6
8	62.5	60.6	63.1	60.3	56.0	53.8	53.1	52.1	53.1	54.4	57.0	60.6
9	61.2	61.2	56.6	54.1	53.8	52.4	51.2	50.6	47.7	52.1	55.1	60.3
10	62.8	59.9	62.5	60.6	59.3	53.4	51.8	48.3	48.0	53.8	56.6	60.6
11	62.5	63.7	60.6	56.6	53.4	48.9	45.4	43.4	44.7	50.6	52.8	56.6
12	60.3	60.9	61.8	61.2	56.6	50.9	47.7	44.1	41.2	47.0	53.4	59.3
13	63.4	66.4	67.1	63.1	57.0	51.8	48.6	43.4	40.5	52.8	55.4	60.3
14	64.4	66.1	66.4	62.8	56.3	49.9	47.0	45.4	44.7	53.4	58.6	61.5
15	65.1	65.4	64.8	61.5	55.4	52.1	47.0	43.4	43.1	50.2	55.4	59.6
16	62.5	58.9	54.1	54.4	52.8	52.8	51.8	51.5	51.5	51.8	55.7	59.6
17	(64.8)	(67.7)	(68.0)	(63.7)	(58.6)	...	...	...	...	...	(53.4)	(55.4)
18	59.6	63.1	62.8	59.9	56.0	53.4	51.2	50.2	49.9	52.8	58.3	* 64.1
19	...	...	...	(70.3)	(66.4)	(65.4)	(61.8)	(61.2)	(60.9)	(60.9)	(64.8)	(72.8)
20	77.3	77.7	80.6	76.4	69.0	66.1	64.1	63.7	62.5	61.8	65.1	69.6
21	72.8	72.8	69.3	65.4	64.8	63.1	59.9	56.3	56.0	56.6	57.6	64.1
22	70.0	72.8	75.1	74.1	69.0	64.4	60.6	58.3	56.6	62.5	66.8	71.5
23	76.1	79.3	80.0	76.7	69.6	66.8	63.1	59.6	59.3	64.8	70.0	55.7
24	77.7	79.3	80.6	75.7	69.0	62.1	56.6	54.1	53.1	61.5	67.7	72.8
25	78.0	80.9	81.8	77.7	71.2	65.8	57.6	56.0	53.4	62.1	68.0	73.7
26	78.7	79.6	80.6	79.3	73.7	64.8	60.3	56.6	55.1	60.9	66.4	73.7
27	80.0	80.3	82.5	80.6	72.8	67.4	61.8	58.9	58.9	67.7	69.0	77.0
28	82.9	82.5	79.3	76.7	71.2	66.4	61.8	60.9	60.9	61.2	63.7	66.4
29	68.6	72.8	69.0	65.8	61.8	59.9	58.9	58.9	58.6	60.9	61.8	62.1
30	65.8	61.2	64.1	61.5	59.3	58.3	57.6	57.6	57.0	57.9	58.9	59.3
Mean of 28 days.	68.7	69.5	69.2	66.5	62.1	58.2	55.3	53.3	52.6	56.9	60.6	64.5

Reduction to Standard Thermometer — $0^{\circ}.5$.

* Eye observation.

HYGROGRAPH.

JUNE, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	o	o	o	o	o	o	o	o	o	o	o	o
1	* 53.1	53.8	54.4	51.5	47.4	46.0	44.0	41.8	* 42.8	43.7	52.1	54.1
2	53.1	54.1	53.4	55.1	54.7	52.1	50.2	50.2	50.2	51.5	53.8	57.9
3	57.9	60.6	59.9	57.6	57.3	55.1	53.8	52.8	53.1	54.1	56.0	58.3
4	60.6	60.6	60.6	59.3	57.3	54.4	52.8	51.2	51.2	55.1	58.9	62.8
5	* 62.8	62.8	62.8	61.8	60.6	58.6	58.6	58.3	57.9	59.9	61.8	62.8
6	63.1	64.1	63.4	64.1	62.8	62.5	61.8	60.9	59.6	59.6	* 59.9	60.3
7	61.2	62.8	62.1	58.9	57.6	55.7	53.4	51.8	50.6	51.8	52.8	54.1
8	55.4	55.4	55.7	53.1	51.5	50.9	50.9	50.2	50.9	51.8	53.1	53.8
9	54.7	54.7	52.8	52.1	52.1	51.2	49.2	48.9	47.0	48.0	51.2	53.4
10	55.1	54.7	54.7	55.4	52.8	49.9	48.6	46.7	46.7	51.2	52.1	51.8
11	...	...	(51.8)	(50.9)	(48.3)	(45.0)	(42.7)	(42.1)	(42.1)	(46.0)	(48.0)	(49.9)
12	51.5	51.5	51.5	53.1	50.9	48.3	45.7	43.1	40.8	44.7	49.9	51.5
13	53.4	54.7	55.4	52.8	50.6	48.0	45.0	41.8	40.2	46.7	48.9	49.6
14	53.4	55.4	54.7	51.8	49.2	46.7	45.0	43.4	43.4	49.6	51.2	51.8
15	53.1	53.8	53.1	51.8	49.2	47.4	43.4	41.8	42.4	48.0	49.9	51.5
16	53.1	51.8	49.9	49.2	49.2	50.2	48.9	49.2	49.6	49.9	50.6	53.8
17	(56.3)	(57.3)	(57.6)	(54.7)	(51.5)	* (47.0)	...	...	...	...	(51.5)	(52.1)
18	54.7	56.6	56.0	54.7	52.4	50.9	49.2	48.3	48.6	50.6	* 54.9	* 59.2
19	...	...	...	(62.8)	(62.5)	(60.6)	(58.9)	(59.9)	(59.3)	(58.9)	(62.1)	(66.8)
20	66.8	67.7	67.7	66.8	65.4	62.8	61.8	61.5	60.9	59.9	62.5	64.4
21	64.4	65.1	63.1	63.1	62.5	61.2	57.9	55.7	55.4	55.7	56.3	60.6
22	64.4	65.4	66.1	65.8	64.4	61.2	58.6	57.3	55.7	59.6	62.8	66.1
23	67.4	68.6	68.6	68.3	65.8	64.4	60.3	56.6	55.7	60.3	62.1	62.5
24	63.1	64.4	65.8	63.7	61.2	57.0	54.7	52.4	51.2	56.3	59.6	61.5
25	63.7	65.1	64.4	62.8	61.2	57.6	54.7	53.8	51.5	56.6	60.6	61.5
26	63.1	64.4	65.1	62.8	62.8	59.6	56.6	54.7	53.8	57.9	61.5	64.4
27	65.8	67.1	68.3	65.8	63.7	60.6	58.3	56.6	54.7	60.6	62.1	65.8
28	68.3	67.7	67.1	65.8	63.7	62.1	58.9	58.3	57.9	57.3	58.6	59.6
29	59.6	59.6	58.6	57.6	57.6	56.6	56.0	56.6	56.6	57.6	58.6	58.6
30	61.2	57.9	59.6	57.0	57.0	56.6	56.0	56.3	56.0	56.0	57.3	57.3
Mean of 27 days.	59.4	60.0	59.8	58.6	57.1	54.7	53.1	51.9	51.3	53.9	55.9	58.5

Reduction to Standard 0° o.

* Eye observations.

THERMOGRAPH.

JULY, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	60.9	58.3	58.6	57.0	55.1	54.4	52.1	49.9	50.6	52.4	55.4	59.9
2	61.5	64.8	67.7	64.4	61.5	60.3	58.3	57.3	57.0	57.6	59.9	63.1
3	64.1	62.5	59.6	60.6	58.9	57.9	57.9	56.6	57.6	58.6	59.3	60.3
4	59.6	61.8	63.1	64.8	61.8	59.9	59.6	58.6	55.1	61.8	60.3	64.8
5	66.8	64.1	63.1	63.4	58.3	57.9	57.3	56.3	57.0	57.3	56.3	59.6
6	63.1	58.6	61.5	52.8	54.7	52.4	52.8	53.1	53.8	53.8	51.8	56.6
7	59.9	61.5	60.6	59.9	56.6	51.8	49.2	47.4	46.4	55.1	56.3	58.9
8	60.3	61.5	63.1	60.9	55.7	50.2	48.9	53.4	49.2	57.0	59.9	61.8
9	66.1	68.3	68.6	64.8	59.9	54.7	54.1	53.1	52.4	56.3	62.1	67.1
10	69.6	69.0	70.6	66.4	63.4	60.6	60.3	59.9	59.6	59.3	63.1	67.7
11	69.6	66.8	69.3	69.3	63.4	59.9	57.6	57.9	56.6	62.8	64.4	69.6
12	73.1	75.1	75.7	73.4	68.3	64.8	60.3	57.0	57.0	61.2	63.4	65.1
13	72.5	74.5	75.1	72.2	67.1	61.5	57.6	56.6	57.9	60.6	66.1	72.2
14	74.8	78.7	80.6	77.7	70.9	64.1	60.9	58.3	55.1	60.6	64.8	70.6
15	76.7	78.7	77.3	72.2	65.8	62.5	58.6	56.3	55.7	56.6	63.1	65.8
16	70.0	69.6	69.3	63.4	60.6	57.6	55.1	52.1	50.9	50.9	58.3	64.8
17	70.6	72.8	71.5	70.3	64.4	60.6	59.3	57.0	56.6	58.3	64.8	69.0
18	70.0	71.8	72.8	72.5	68.0	63.1	60.3	59.3	58.3	58.6	64.1	71.5
19	77.3	80.6	80.0	76.1	70.3	67.7	65.1	61.2	59.3	63.7	66.8	71.2
20	(76.7)	(76.4)	(74.5)	(68.0)	(63.1)	(59.3)	...	...	...	...	...	(65.8)
21	68.3	67.1	65.8	62.8	62.8	62.5	63.1	63.4	62.8	63.1	66.8	67.4
22	70.3	72.5	73.7	71.2	67.4	64.1	63.7	62.5	62.8	63.4	66.4	69.3
23	71.5	73.1	70.9	69.6	64.8	61.5	59.3	60.3	59.3	61.5	65.8	72.2
24	77.3	77.0	76.7	73.1	67.4	62.1	61.5	62.5	63.4	65.1	63.4	66.4
25	70.0	71.5	71.2	66.4	60.3	56.6	54.4	51.2	51.8	58.3	62.8	63.7
26	68.3	68.6	69.6	67.1	62.1	59.9	57.9	58.3	58.9	59.9	62.8	65.1
27	72.8	74.5	70.6	67.7	64.4	63.1	61.8	61.5	59.9	60.3	59.9	64.4
28	68.0	69.6	70.6	69.6	63.7	58.9	54.4	51.8	48.9	53.1	58.6	64.1
29	69.6	71.5	73.4	72.5	67.7	63.1	58.9	55.4	54.4	57.3	60.3	66.4
30	68.6	71.2	69.6	67.7	65.4	63.1	63.1	62.8	62.1	63.7	66.8	69.6
31	74.1	73.1	72.8	70.6	65.1	61.5	61.8	62.5	62.5	62.8	63.4	69.0
Mean of 30 days.	68.8	69.6	69.8	67.3	63.2	59.9	58.2	57.1	56.1	59.0	62.0	65.9

Reduction to Standard Thermometer — °°3.

HYGROGRAPH.

JULY, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	57.3	55.7	54.7	53.4	51.2	50.6	48.6	47.4	48.0	49.6	51.5	53.1
2	53.8	55.4	56.3	54.7	54.1	54.4	54.7	54.1	54.1	54.7	54.7	57.0
3	56.6	56.0	55.7	56.6	55.1	54.4	55.4	55.4	56.3	57.3	57.6	58.6
4	57.6	57.9	59.3	58.9	58.6	58.3	57.9	56.6	54.1	58.3	57.0	59.6
5	60.6	59.9	61.2	60.6	57.0	56.6	56.0	55.4	55.7	55.7	51.8	52.8
6	53.1	54.7	54.7	50.2	51.2	49.9	49.9	51.5	52.1	49.9	49.9	50.6
7	51.5	52.8	53.1	52.1	51.5	48.6	47.0	46.0	45.4	50.6	50.6	52.1
8	53.1	53.4	54.7	53.4	50.6	48.0	46.7	48.3	48.3	53.1	52.8	54.7
9	57.6	57.9	57.9	56.3	56.3	51.5	52.4	51.2	50.6	53.4	57.3	58.9
10	60.9	60.6	61.2	59.9	58.9	58.3	57.9	57.9	57.6	57.0	59.3	59.9
11	61.2	60.3	60.9	61.5	59.6	57.6	56.3	56.6	55.1	59.3	60.6	63.1
12	64.8	65.4	66.1	64.8	63.1	61.2	58.6	55.7	55.7	58.3	62.8	61.2
13	63.1	64.4	64.4	62.8	61.5	58.6	56.3	55.4	56.3	58.3	61.2	63.7
14	65.4	66.1	67.7	66.1	63.7	60.6	57.9	56.3	54.1	57.3	59.9	62.8
15	63.7	64.4	63.7	60.9	59.9	57.9	55.7	54.4	54.7	55.4	59.6	60.6
16	60.6	59.6	57.6	57.6	57.3	55.7	52.8	51.2	50.2	50.2	54.7	57.3
17	...	(61.2)	...	(60.9)	(57.9)	(56.3)	(56.3)	(56.0)	(56.3)	(57.9)	(60.6)	(62.5)
18	(64.1)	(64.4)	...	(65.4)	(62.8)	(60.3)	(58.9)	(57.9)	...	(56.6)	(61.2)	(62.8)
19	...	(66.4)	...	(64.8)	(63.7)	(62.1)	(60.3)	(57.9)	...	...	...	*(62.6)
20	...	...	...	...	...	*(54.8)	...	...	...	...	...	(58.6)
21	59.9	59.6	60.6	60.6	59.9	60.3	60.6	60.9	60.3	60.3	62.5	61.8
22	(62.1)	(61.8)	(61.2)	(60.6)	(58.9)	(58.9)	(58.9)	(59.3)	(60.6)	...	...	*(64.0)
23	...	...	...	(61.5)	(59.3)	(57.9)	(57.3)	(57.9)	(57.3)	(58.6)	(60.6)	(61.5)
24	63.7	63.7	64.1	62.8	60.3	58.9	58.3	59.3	60.6	61.2	61.8	62.1
25	61.2	57.9	59.9	57.0	54.7	53.1	52.1	49.9	50.6	53.8	57.9	56.6
26	57.9	58.3	57.6	57.3	56.0	54.7	54.1	54.7	55.7	57.0	59.9	61.2
27	64.4	64.4	64.4	65.1	62.8	61.8	60.3	60.3	58.9	58.9	57.9	59.3
28	58.9	57.9	59.6	58.6	57.6	54.7	53.1	50.9	48.3	50.2	52.8	55.4
29	60.3	61.2	62.8	62.1	60.6	58.6	56.3	53.8	52.8	53.1	56.3	60.6
30	* 63.4	* 64.4	* 63.1	* 62.8	* 61.5	60.6	60.6	59.9	59.6	60.6	61.5	62.8
31	63.1	63.7	64.1	62.8	60.3	58.9	58.9	60.3	58.6	59.9	61.5	62.8
Mean of 25 days.	59.7	59.8	60.2	59.6	57.7	56.2	55.1	54.5	54.1	55.7	57.4	58.8

Reduction to Standard + 0°.2.

* Eye observations.

THERMOGRAPH.

AUGUST, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	72.2	73.1	74.1	70.9	67.4	66.4	60.9	59.3	60.9	62.8	66.4	71.2
2	76.1	75.1	77.3	72.8	68.0	63.1	61.2	58.9	57.6	58.9	64.4	70.0
3	79.3	81.8	80.6	76.1	70.3	66.4	64.4	63.7	61.2	62.8	67.7	72.8
4	76.1	74.8	72.8	72.8	69.0	66.4	63.1	59.9	58.9	59.6	62.1	64.8
5	71.5	72.8	72.8	69.6	64.4	62.8	59.9	60.6	59.9	59.9	59.9	59.9
6	66.1	64.4	61.2	58.6	56.6	55.1	53.8	53.4	53.1	53.4	54.7	56.6
7	56.6	56.3	56.3	55.7	55.7	55.7	55.7	55.1	54.4	54.1	55.4	58.3
8	62.1	57.6	57.3	57.3	57.0	56.6	56.6	56.0	55.4	56.6	58.9	62.5
9	65.1	66.4	60.3	62.1	58.6	57.9	55.1	52.8	50.6	50.2	56.6	64.1
10	69.6	71.8	69.6	66.1	63.7	63.4	61.5	61.8	61.2	62.5	65.4	69.6
11	74.8	72.8	70.3	66.4	65.1	62.8	60.6	57.6	58.6	58.3	62.5	68.3
12	73.4	76.1	74.1	73.4	66.1	64.8	61.8	59.9	59.6	61.5	66.4	71.8
13	75.4	76.1	79.3	74.5	65.4	62.5	61.5	61.8	60.3	59.9	60.9	61.8
14	66.4	69.0	64.8	58.9	58.6	58.6	56.0	53.4	51.5	52.1	58.3	63.1
15	(66.4)	(67.4)	(68.6)	(65.8)	(64.1)	(56.6)	...	...	...	(62.8)	(66.1)	(71.5)
16	77.0	77.3	76.7	72.8	67.1	63.1	60.3	58.9	58.9	58.9	61.5	65.4
17	68.3	69.6	70.9	67.4	60.6	56.0	51.8	50.9	50.9	53.4	60.9	64.8
18	66.4	67.7	66.4	63.1	60.6	61.2	59.3	58.3	57.6	57.3	61.5	66.1
19	69.6	73.1	73.4	70.9	68.6	67.1	66.4	65.8	64.8	64.1	66.1	67.1
20	72.2	72.5	72.8	67.1	63.4	59.9	58.6	57.6	56.6	56.6	58.9	61.5
21	66.8	69.3	70.3	66.4	61.8	61.2	62.1	61.5	61.2	60.9	62.5	65.4
22	72.2	76.7	76.7	73.1	66.4	64.1	64.8	60.6	59.3	61.5	72.5	78.7
23	81.8	82.5	82.5	77.0	71.3	67.7	64.8	64.4	63.4	63.7	73.4	77.3
24	80.9	82.5	81.2	76.1	71.2	65.8	64.8	63.7	62.8	63.4	68.6	71.8
25	75.1	76.1	76.4	72.5	66.4	61.5	59.6	56.6	55.1	52.4	57.0	65.8
26	71.2	73.4	76.1	71.5	64.4	59.6	57.6	56.3	53.8	53.8	58.9	64.8
27	70.3	72.8	75.1	68.6	61.8	55.4	54.7	51.5	49.6	49.2	54.7	63.4
28	67.4	66.8	65.8	62.8	60.9	59.6	57.9	56.3	53.4	55.4	58.9	61.8
29	65.1	63.7	63.1	62.5	60.9	58.9	57.0	58.6	58.9	59.9	63.1	69.0
30	75.4	75.7	76.7	71.8	64.4	58.6	56.3	54.1	52.4	51.2	58.9	67.7
31	74.1	76.1	74.1	71.2	65.4	63.1	59.9	59.9	60.6	60.9	62.1	65.8
Mean of 30 days.	71.3	72.1	71.6	68.3	64.0	61.5	59.6	58.3	57.4	57.8	62.0	66.4

Reduction to Standard Thermometer — $0^{\circ}.6$.

HYGROGRAPH.

AUGUST, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	63.7	65.1	64.4	64.1	63.1	62.8	59.3	57.6	58.9	60.6	62.5	64.8
2	66.1	66.8	67.1	65.1	62.5	60.9	59.3	57.6	56.3	57.6	60.6	63.7
3	67.7	67.4	67.4	62.8	63.7	62.1	61.8	60.9	59.6	58.9	62.5	64.4
4	66.8	67.1	66.1	65.8	63.7	61.8	60.3	57.6	57.3	56.6	59.3	59.6
5	61.2	60.9	61.8	60.3	57.9	57.6	57.9	58.9	58.6	57.9	57.6	57.9
6	60.3	60.6	57.9	53.8	52.1	51.8	51.5	51.8	52.1	52.1	52.4	54.4
7	54.4	54.4	54.1	53.8	54.1	54.7	54.4	54.1	53.4	52.8	53.8	54.7
8	56.6	56.3	55.7	55.7	55.4	55.4	55.4	54.7	54.4	55.4	56.0	57.9
9	58.6	59.6	57.9	58.9	56.3	56.6	54.1	52.1	49.9	49.2	54.7	58.3
10	61.2	62.5	60.9	60.3	60.6	61.2	59.9	59.9	59.6	60.6	62.8	64.4
11	66.4	65.1	63.1	63.1	62.5	60.6	58.6	56.6	57.3	57.3	59.9	68.0
12	67.1	65.8	66.1	65.4	62.1	61.5	59.9	58.6	57.9	59.6	62.8	65.4
13	67.4	67.7	67.4	64.4	62.8	60.6	60.3	60.6	58.9	57.9	58.3	58.3
14	...	(59.6)	(58.9)	...	...	*(54.1)	...	...	...	...	...	(57.7)
15	...	(58.9)	(59.3)	(59.3)	(57.6)	*(54.6)	...	...	...	...	...	*(54.5)
16	...	...	...	(60.3)	(60.6)	*(59.0)	(56.6)	...	...	...	...	(58.9)
17	...	...	...	...	...	*(53.8)	...	...	...	...	...	(58.9)
18	59.9	60.6	59.9	57.3	56.0	57.9	56.3	56.0	55.7	56.0	57.9	58.9
19	61.2	63.1	63.4	63.4	63.1	62.8	62.8	61.8	61.8	61.8	62.1	62.5
20	63.7	63.7	63.1	61.8	59.6	56.0	54.4	53.4	52.4	52.8	54.7	56.0
21	58.3	59.9	61.2	59.6	57.3	57.3	57.9	57.9	58.3	58.3	60.3	61.5
22	66.1	67.4	66.4	64.4	62.5	60.9	61.2	58.9	57.9	59.6	66.4	67.7
23	68.3	68.3	68.3	67.1	65.1	63.1	61.5	60.9	60.6	60.3	65.8	67.7
24	69.3	69.3	68.6	66.1	65.1	63.1	62.5	61.2	60.3	60.6	63.7	65.1
25	65.1	64.4	63.1	62.8	61.2	57.9	56.3	55.1	53.8	51.8	54.7	60.3
26	61.2	62.1	64.4	62.5	59.6	57.0	55.4	54.4	53.1	51.5	54.7	57.3
27	60.9	62.1	61.8	57.9	56.3	51.5	51.2	50.2	48.3	47.7	51.2	56.3
28	56.3	57.3	57.9	57.0	56.3	56.3	55.4	54.1	51.8	53.8	54.7	56.3
29	57.9	57.9	57.6	57.3	57.0	56.0	55.4	56.6	57.3	57.9	61.2	62.5
30	63.4	62.8	62.5	60.9	58.3	55.4	54.1	52.4	51.2	50.6	56.3	61.2
31	62.5	63.1	64.1	62.8	61.2	59.6	57.9	57.9	58.9	58.9	59.9	57.9
Mean of 27 days.	62.7	63.0	62.7	61.3	59.8	58.2	57.8	56.7	56.1	56.2	58.8	60.9

Reduction to Standard + 0°.4.

* Eye observations.

THERMOGRAPH.

SEPTEMBER, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	69.0	70.6	71.5	66.4	61.8	58.9	58.6	59.3	57.9	57.6	56.6	60.9
2	57.0	59.3	58.3	56.6	53.1	52.4	51.2	49.6	48.9	49.6	49.9	52.4
3	54.7	57.6	57.6	56.6	55.4	53.4	53.4	52.8	49.9	50.9	53.8	56.0
4	57.9	61.5	63.1	59.3	54.1	52.4	51.8	51.5	51.8	48.9	54.7	61.8
5	64.4	65.8	64.1	60.6	56.6	56.6	54.7	56.0	54.1	53.4	59.6	65.4
6	68.3	69.0	71.2	65.1	60.9	58.9	59.3	57.3	56.0	56.3	59.3	62.7
7	66.1	68.0	70.6	64.1	60.9	58.3	58.9	58.9	58.6	60.3	63.7	62.5
8	59.6	59.3	57.9	58.3	57.9	57.3	56.3	53.8	58.4	52.4	58.6	64.8
9	67.1	64.1	66.4	62.5	60.6	60.6	59.9	59.3	59.3	58.3	60.6	62.1
10	67.7	68.3	68.6	65.1	58.9	57.6	56.3	57.3	57.0	57.3	57.0	57.6
11	59.9	62.1	62.8	59.9	58.9	58.3	57.6	56.0	54.4	53.8	57.6	63.1
12	66.8	66.4	64.1	61.2	58.9	58.9	54.7	56.6	57.3	57.0	59.6	60.9
13	65.8	67.1	68.3	63.4	59.3	58.9	57.0	57.3	57.3	57.6	59.3	61.8
14	64.1	65.4	66.4	65.1	64.1	60.6	59.6	60.3	60.6	60.6	61.8	66.1
15	67.4	69.6	68.3	66.4	64.8	63.7	63.4	62.8	62.5	62.5	64.8	69.6
16	70.9	72.5	72.8	69.3	64.1	61.2	59.6	55.7	53.4	50.9	59.9	68.0
17	75.7	76.1	76.7	69.6	65.1	61.5	59.9	58.3	57.3	55.1	59.3	65.8
18	68.6	69.3	66.4	61.5	56.6	55.4	51.8	50.2	50.6	49.2	52.1	56.6
19	57.6	58.9	59.3	57.0	54.7	50.9	51.8	52.1	51.8	51.8	53.1	58.9
20	62.1	63.7	64.4	62.8	58.3	54.4	48.9	46.4	46.7	46.0	46.7	58.3
21	62.8	63.7	63.4	60.9	58.3	57.9	57.9	56.6	55.7	55.1	56.3	58.6
22	60.9	61.2	60.9	59.3	57.9	57.9	57.0	55.1	55.4	55.4	57.6	60.9
23	63.1	64.4	64.1	59.9	54.7	54.4	49.9	50.2	52.1	56.3	58.9	64.8
24	63.1	64.1	65.8	63.1	62.1	61.5	60.9	59.9	59.9	59.9	61.5	66.1
25	68.0	62.1	61.2	59.3	58.3	57.3	55.7	53.4	48.6	45.4	48.9	58.3
26	62.1	62.8	61.8	57.0	56.3	57.6	57.9	59.3	59.9	60.9	62.1	64.1
27	67.7	65.8	64.4	62.8	60.6	57.6	57.6	57.0	57.0	56.6	57.0	59.9
28	63.1	64.1	64.1	57.0	53.8	51.5	49.9	48.6	46.4	43.4	46.7	57.6
29	62.8	63.4	63.1	57.6	52.4	50.2	48.0	50.2	52.1	53.8	55.4	59.6
30	64.8	66.1	64.8	58.9	56.3	52.1	50.6	51.5	51.2	52.8	52.8	55.7
Mean	64.3	65.1	65.1	61.2	58.5	56.9	55.3	55.1	54.5	54.3	56.8	61.1

Reduction to Standard Thermometer — 0°.7.

HYGROGRAPH.

SEPTEMBER, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	o	o	o	o	o	o	o	o	o	o	o	o
1	59.9	57.9	59.3	57.9	57.3	54.7	56.6	57.3	53.8	53.1	53.1	53.1
2	50.9	51.5	51.2	51.5	51.2	49.9	48.3	47.7	47.7	48.3	48.6	49.9
3	52.4	53.4	54.1	54.1	53.4	52.1	52.1	51.8	49.6	49.9	51.8	53.1
4	53.1	55.1	56.0	54.1	51.5	50.6	50.2	49.9	50.2	47.7	52.4	56.0
5	58.9	58.6	57.9	56.3	54.1	54.7	53.4	54.7	53.1	53.1	57.0	58.9
6	59.3	59.6	61.2	58.9	57.3	56.3	56.3	56.0	54.7	55.4	56.0	58.3
7	59.6	59.3	60.3	58.9	57.6	56.3	56.6	56.0	57.0	59.3	60.9	58.6
8	57.3	57.6	56.6	57.0	56.3	56.0	54.7	52.8	51.5	51.2	56.3	60.3
9	61.2	61.5	62.1	59.3	58.9	58.9	57.9	57.6	57.9	56.3	57.6	57.6
10	58.6	57.9	57.9	58.9	56.3	56.0	54.4	54.1	54.4	54.7	54.4	55.1
11	57.9	57.9	57.9	56.3	55.4	54.7	54.4	54.1	52.8	52.1	55.1	58.9
12	59.6	60.6	60.6	58.3	57.0	57.6	53.8	55.7	56.0	56.0	57.3	57.9
13	60.6	61.2	61.8	59.9	57.6	56.3	55.1	55.1	56.0	56.0	57.6	60.3
14	63.7	63.7	64.1	62.8	61.8	58.6	58.6	58.9	58.9	59.3	59.9	62.8
15	62.8	64.1	64.1	62.5	62.1	62.1	61.5	60.9	60.6	60.6	61.5	63.4
16	64.4	65.4	65.4	64.1	61.2	59.6	57.6	54.4	52.1	49.9	57.6	64.1
17	66.1	65.8	66.8	64.4	62.1	59.3	57.9	56.3	55.7	54.1	57.3	60.6
18	60.6	59.3	57.9	56.3	54.1	52.8	50.9	49.2	48.9	48.0	49.6	52.8
19	54.7	54.7	53.4	51.8	50.2	48.3	48.9	49.6	49.2	49.2	50.2	54.1
20	55.4	57.3	57.3	56.3	54.7	50.6	48.3	45.0	46.3	45.7	46.3	51.5
21	54.7	57.0	57.6	56.3	55.1	56.0	55.7	55.1	53.8	52.8	52.1	53.4
22	54.7	55.4	55.7	55.1	54.7	54.7	53.4	53.4	52.8	52.8	54.1	55.4
23	56.0	57.6	57.3	54.7	51.8	51.5	48.9	49.2	51.2	54.4	57.3	61.2
24	62.5	62.5	61.8	60.6	59.6	59.3	58.9	58.6	58.9	58.6	60.3	60.6
25	59.9	58.6	57.9	56.6	56.0	54.4	53.1	51.5	51.2	44.7	47.7	53.8
26	54.4	54.1	54.4	53.1	53.1	54.7	56.0	57.0	58.6	59.3	59.6	60.3
27	61.2	61.2	60.3	58.6	57.6	56.6	56.3	56.0	55.4	55.4	56.0	57.9
28	57.9	57.9	57.3	54.4	51.5	49.9	48.3	48.0	44.7	43.1	43.4	54.7
29	56.3	56.6	56.3	54.4	50.6	47.4	47.4	48.9	52.1	51.8	55.4	57.6
30	59.3	59.3	57.9	56.6	53.1	51.2	49.6	50.6	50.2	51.8	52.1	54.7
Mean	58.5	58.8	58.7	57.3	55.8	54.7	53.8	53.5	53.2	52.8	54.6	57.2

Reduction to Standard 0.0.

THERMOGRAPH.

OCTOBER, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	61.2	65.8	66.8	61.2	58.3	56.0	54.7	53.4	52.1	51.5	53.4	58.3
2	62.8	64.8	63.4	59.9	57.6	55.7	57.6	57.0	57.6	58.3	58.6	59.9
3	63.1	63.1	61.8	59.9	58.3	57.6	57.3	55.7	53.1	52.1	50.9	49.9
4	48.9	48.9	49.9	49.6	47.7	43.1	43.1	42.4	41.2	39.4	38.3	51.2
5	55.4	56.3	51.2	47.4	44.1	41.2	45.0	47.0	45.4	43.1	45.7	51.8
6	53.8	56.0	54.7	46.4	46.0	44.4	43.7	46.0	47.4	49.9	54.1	57.6
7	56.3	57.0	55.7	55.7	55.4	53.8	53.4	51.8	52.8	52.1	51.2	49.6
8	50.2	53.4	52.4	52.4	51.5	48.9	48.0	46.0	46.4	45.4	48.6	49.9
9	50.2	53.4	51.8	51.8	51.5	51.2	48.9	48.6	45.7	45.4	50.9	55.1
10	57.6	58.9	57.3	54.7	50.9	49.6	49.2	50.2	51.2	52.1	53.4	57.9
11	62.1	61.8	61.8	59.9	59.3	58.9	58.9	58.3	56.6	56.3	57.9	59.6
12	62.5	63.1	63.1	60.3	60.3	59.3	58.3	57.9	57.6	57.6	57.6	60.3
13	63.7	63.7	62.1	60.3	59.3	58.6	53.8	49.9	47.7	46.7	46.7	55.7
14	60.6	61.5	59.9	53.4	50.2	48.6	46.0	45.0	45.4	47.0	48.3	50.2
15	53.8	56.6	56.3	55.1	54.1	54.1	53.1	53.1	52.8	52.1	53.1	55.4
16	58.3	59.6	58.9	57.3	55.4	52.4	51.2	51.5	52.8	53.1	52.4	55.7
17	59.3	60.3	58.9	55.7	55.1	54.4	54.1	53.8	53.8	54.1	54.4	55.7
18	57.0	56.3	55.4	54.1	52.1	51.8	52.8	53.4	53.4	53.8	53.8	56.3
19	59.3	59.9	59.3	54.7	53.1	49.6	48.6	46.4	45.4	43.7	46.0	50.9
20	58.3	58.9	58.3	54.7	53.1	52.4	50.6	51.5	51.5	51.5	51.8	53.4
21	55.1	55.4	53.4	50.2	49.6	48.6	47.0	45.0	44.4	44.1	44.1	44.7
22	43.4	44.1	45.4	45.4	45.4	45.4	47.0	46.0	46.4	45.7	46.0	47.0
23	50.2	51.5	50.2	49.6	45.7	47.7	47.7	48.9	49.6	50.2	52.1	54.4
24	58.9	59.9	57.3	55.1	55.4	56.3	55.4	53.4	53.4	53.4	54.7	56.6
25	58.9	58.3	57.0	55.7	50.6	47.7	45.7	47.0	48.0	48.0	49.2	51.5
26	54.4	55.7	55.1	51.5	49.9	50.2	51.2	50.9	52.1	52.1	53.4	55.7
27	59.3	57.9	56.3	55.1	54.1	51.2	51.8	48.9	47.0	47.4	47.7	54.7
28	58.6	58.3	55.4	50.9	48.9	46.7	45.4	45.7	46.4	44.4	45.7	51.8
29	56.3	55.1	53.8	50.2	48.0	46.0	47.7	49.9	49.9	50.6	50.9	53.1
30	52.4	53.1	51.2	47.0	44.4	42.7	41.5	39.9	36.0	34.7	38.9	47.0
31	54.7	54.1	53.1	52.4	51.5	50.6	50.2	51.2	49.9	49.2	50.9	54.7
Mean	56.4	57.1	56.3	53.8	52.1	50.4	50.3	49.8	49.4	49.1	50.3	53.7

Reduction to Standard Thermometer 0°0.

HYGROGRAPH.

OCTOBER, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	60.6	59.9	61.2	57.3	56.0	54.4	53.4	52.1	50.9	50.6	52.4	55.4
2	57.0	55.7	57.3	55.4	54.7	53.1	54.7	55.1	55.4	55.4	55.4	56.3
3	57.9	57.9	58.3	57.0	56.3	55.7	55.1	55.1	52.1	51.2	50.2	48.6
4	47.7	47.7	47.4	47.7	47.0	42.7	42.4	41.8	41.2	39.2	38.3	48.3
5	48.9	48.6	47.0	45.0	43.1	40.8	44.0	45.4	44.7	42.1	43.1	47.4
6	47.7	48.3	48.3	45.0	44.0	43.1	42.4	43.7	46.0	48.3	51.5	53.8
7	53.1	54.1	53.8	53.8	52.4	51.2	50.6	49.2	50.2	49.9	48.3	48.3
8	49.9	52.4	50.2	49.2	48.3	46.7	46.0	44.7	45.4	44.4	47.4	48.9
9	48.3	48.9	48.3	48.3	48.3	48.0	46.7	46.0	44.4	44.0	48.0	50.9
10	51.2	52.8	52.8	51.5	49.2	48.3	48.3	49.6	50.6	51.5	52.8	56.3
11	57.9	58.6	58.9	57.9	57.6	57.0	57.6	57.0	55.4	55.4	57.0	58.6
12	59.9	60.3	59.6	57.9	57.9	57.6	56.6	56.3	56.3	56.3	56.3	57.6
13	58.9	59.3	58.9	57.9	57.3	56.6	52.4	49.2	47.0	46.0	46.3	53.1
14	54.4	54.7	55.1	51.5	49.2	48.0	46.3	44.4	44.7	46.7	47.7	49.2
15	51.5	53.4	53.8	53.4	52.8	52.8	52.1	51.5	51.2	50.9	51.8	53.1
16	55.7	57.0	56.6	55.7	54.4	51.5	50.2	50.9	52.1	52.1	51.5	53.4
17	57.0	56.0	54.4	52.8	52.4	52.1	52.1	52.4	52.7	53.1	53.4	53.8
18	54.7	54.4	53.4	52.8	50.9	50.9	51.5	52.1	52.1	52.4	52.8	53.8
19	55.7	55.7	55.7	53.1	51.5	48.9	48.0	46.0	44.7	43.4	45.7	50.2
20	56.0	55.4	55.4	52.8	51.2	50.9	49.2	49.9	50.6	50.6	50.9	51.5
21	52.4	53.1	48.9	48.6	46.7	45.0	44.4	42.7	41.8	41.2	41.2	41.5
22	41.8	42.7	43.7	45.0	45.0	45.0	45.0	44.7	45.0	44.4	45.0	46.3
23	48.3	48.6	48.3	48.0	45.0	46.0	46.3	47.0	47.4	48.3	50.2	51.5
24	53.1	54.4	52.8	52.1	52.8	53.4	53.1	51.5	51.5	51.5	52.1	53.8
25	54.7	54.4	54.4	53.8	49.6	47.7	45.0	46.0	47.7	47.4	48.6	50.6
26	52.1	53.1	52.1	50.6	48.9	49.2	49.6	49.9	50.6	50.9	51.8	53.8
27	54.1	54.4	53.8	53.1	52.4	49.6	50.6	48.3	46.7	47.0	47.0	52.8
28	53.8	53.1	51.8	49.2	47.7	46.0	45.0	45.0	45.4	44.0	44.4	49.2
29	51.5	51.5	50.6	48.3	46.0	44.4	45.4	47.7	48.0	48.3	48.9	49.6
30	45.0	46.3	46.3	44.4	42.7	41.5	40.5	39.5	36.3	34.6	38.0	43.4
31	48.6	48.6	49.6	49.2	48.6	48.9	49.6	50.2	49.2	48.6	50.2	52.1
Mean	52.9	53.3	52.9	51.6	50.3	49.3	48.8	48.5	48.3	48.1	49.0	51.4

Reduction to Standard + 0°.4.

THERMOGRAPH.

NOVEMBER, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
1	56.6	56.6	54.4	51.5	50.2	48.9	48.3	49.2	49.9	51.8	53.4	55.4
2	57.6	58.6	57.9	57.0	56.6	57.0	57.0	57.3	57.6	57.6	58.3	60.9
3	60.9	60.3	54.4	51.8	49.6	48.9	48.6	48.9	49.6	49.6	49.9	51.2
4	53.4	54.4	53.4	52.1	51.2	50.9	50.9	51.2	50.9	51.2	52.1	54.1
5	57.6	59.3	59.3	57.9	57.6	55.1	55.4	54.7	54.7	54.4	54.1	55.4
6	57.3	57.9	56.6	53.8	49.6	47.7	48.3	46.0	44.1	42.7	43.7	47.4
7	50.6	52.4	47.4	43.1	42.7	42.1	40.8	41.2	41.8	43.4	44.7	47.4
8	48.6	49.6	47.4	43.1	40.2	41.8	42.1	43.4	44.7	45.4	46.0	47.7
9	49.2	49.9	50.6	49.6	48.9	48.6	48.3	47.0	47.4	47.4	48.3	50.2
10	50.6	51.2	50.2	48.9	48.0	48.0	47.7	46.7	46.7	45.4	42.1	45.7
11	51.2	50.9	47.4	43.4	41.2	37.0	33.7	34.0	33.7	34.3	34.0	35.0
12	38.9	41.2	41.5	40.8	39.2	37.3	35.7	33.0	31.2	30.5	31.8	35.7
13	40.5	42.7	42.7	42.1	41.8	39.5	37.6	38.3	39.9	42.4	42.4	45.0
14	48.3	50.2	50.2	48.9	48.9	48.6	48.6	48.9	48.9	45.4	42.1	44.4
15	47.0	48.6	45.4	42.1	42.4	43.7	43.7	43.7	43.1	44.1	44.7	46.7
16	48.6	49.6	49.2	48.6	47.4	46.4	44.1	41.5	38.9	40.8	42.1	45.7
17	50.2	48.9	48.0	47.0	47.0	47.4	47.7	46.7	46.4	42.7	41.2	45.4
18	54.1	54.4	49.6	45.0	43.4	41.8	40.5	41.5	41.2	41.5	41.5	41.8
19	41.8	42.1	42.4	42.4	42.1	42.1	42.7	43.1	43.4	44.4	44.4	45.7
20	48.0	50.2	48.3	47.7	45.7	44.7	43.7	42.4	42.7	43.7	45.7	48.6
21	50.6	52.1	51.5	49.6	49.9	49.2	48.6	48.0	45.0	43.1	42.7	47.0
22	50.9	52.8	49.9	46.4	47.0	47.0	46.0	46.7	50.2	52.1	51.8	49.9
23	50.2	49.2	48.6	46.4	45.7	45.7	45.0	44.7	44.1	43.4	42.7	42.1
24	46.7	47.0	42.7	38.6	37.3	35.3	32.7	35.0	37.3	38.0	38.0	38.9
25	39.9	39.9	39.5	39.2	38.9	36.0	36.0	35.7	35.3	34.7	34.0	35.3
26	38.0	38.0	39.9	41.2	43.4	42.4	41.5	41.8	41.2	40.5	40.8	42.7
27	45.0	44.7	41.5	38.0	36.0	33.4	34.7	36.0	35.7	35.7	37.3	38.3
28	44.4	43.7	40.2	37.6	34.7	32.4	31.5	32.7	32.7	34.0	35.3	40.2
29	41.2	43.7	43.7	42.4	39.5	40.5	37.0	36.6	42.1	43.1	44.1	43.7
30	43.4	42.1	40.5	39.9	40.5	41.5	41.2	38.9	38.9	40.8	43.1	45.4
Mean	48.7	49.4	47.5	45.9	44.9	44.1	43.3	43.2	43.3	43.5	43.7	45.8

Reduction to Standard Thermometer + 0°.2.

HYGROGRAPH.

NOVEMBER, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	o	o	o	o	o	o	o	o	o	o	o	o
1	51.8	51.5	50.2	48.6	48.0	47.7	47.0	48.3	48.6	50.9	52.4	54.4
2	56.0	56.3	55.7	55.1	55.4	55.7	55.7	56.0	56.0	56.0	56.6	57.9
3	58.6	58.6	55.3	50.6	48.3	48.0	47.7	48.0	48.3	48.6	48.9	50.2
4	52.8	53.1	52.8	51.2	50.2	49.9	50.2	50.2	50.2	50.9	51.5	53.4
5	56.3	57.0	57.3	56.3	56.0	54.1	54.4	53.8	53.8	53.4	53.4	54.4
6	55.7	56.0	54.4	51.5	48.9	47.0	47.4	45.7	43.7	42.1	42.7	45.7
7	48.3	49.6	47.7	43.1	43.1	41.8	40.8	41.2	41.5	42.7	44.0	46.0
8	46.7	46.7	45.7	41.8	40.2	41.5	41.8	43.4	44.7	45.0	46.0	47.4
9	48.6	49.6	49.2	48.9	48.0	47.7	47.4	46.3	46.7	46.7	47.4	48.3
10	49.2	49.2	48.0	47.0	46.7	46.7	45.0	43.7	43.7	42.4	41.2	44.0
11	46.7	47.0	45.4	42.4	41.2	37.3	33.7	33.7	33.7	34.3	34.0	34.0
12	38.6	41.2	41.5	40.5	38.9	37.3	35.3	33.1	30.8	30.8	31.5	35.7
13	39.8	41.8	42.1	41.5	41.2	39.2	37.6	38.0	39.2	41.5	42.1	45.0
14	47.0	48.6	48.6	47.4	47.7	48.0	47.7	47.7	48.0	43.7	40.8	42.1
15	42.7	44.4	43.4	40.8	41.2	42.1	42.1	42.4	41.8	42.4	43.1	44.4
16	46.3	47.0	46.3	45.7	45.7	45.0	43.4	40.2	38.6	40.2	41.2	44.4
17	46.7	45.0	44.7	44.7	45.0	45.7	46.3	45.7	45.0	42.1	40.5	43.4
18	48.0	48.0	45.4	43.1	42.1	40.8	40.2	40.5	40.2	40.2	40.5	40.5
19	40.8	41.2	41.5	41.5	41.5	41.5	42.1	42.4	43.1	43.7	44.7	45.4
20	47.0	48.6	47.4	47.0	45.0	44.4	43.4	42.1	42.1	43.4	45.0	47.7
21	49.2	50.9	49.9	48.6	48.6	47.7	47.0	46.3	44.0	42.1	41.8	46.0
22	48.6	49.2	47.0	45.0	46.0	45.7	44.7	45.4	48.9	50.9	49.9	48.0
23	47.0	45.7	45.0	44.4	44.0	43.7	43.4	43.4	43.4	43.4	43.1	43.1
24	41.8	42.4	40.2	37.3	36.3	35.0	32.8	34.6	36.6	37.3	37.6	38.3
25	39.2	39.2	39.2	38.3	38.3	35.3	34.0	33.4	33.7	33.7	33.1	33.7
26	36.0	37.0	38.6	39.5	40.8	40.5	39.5	39.5	38.9	39.8	39.8	41.2
27	41.5	40.8	39.2	36.6	34.6	32.8	33.7	35.0	35.3	35.0	37.0	36.3
28	41.5	41.8	39.2	36.6	35.0	32.2	32.2	31.2	31.2	32.5	33.7	37.0
29	40.5	41.8	41.8	41.5	38.6	39.8	36.3	36.3	40.2	41.2	41.2	41.2
30	40.5	39.5	38.6	38.0	38.6	39.5	40.2	38.6	38.6	40.2	42.4	44.4
Mean	46.4	47.0	46.0	44.7	43.8	43.1	42.6	42.2	42.3	42.6	42.9	44.5

Reduction to Standard + 0°.5.

THERMOGRAPH.

DECEMBER, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	47.7	49.2	49.6	49.6	49.6	48.6	44.4	44.7	46.0	48.6	49.9	52.4
2	55.4	55.7	52.8	50.6	50.6	49.9	50.2	50.9	50.9	50.6	50.6	52.1
3	54.1	55.4	54.4	54.1	54.1	52.8	51.5	51.2	49.6	47.4	45.7	47.7
4	49.9	49.9	46.7	42.7	41.2	40.2	38.9	38.9	38.3	39.2	40.2	42.1
5	47.0	49.6	44.4	42.1	41.5	41.8	41.8	43.7	44.4	47.7	47.0	50.9
6	53.8	53.8	51.5	51.8	51.2	51.2	50.2	50.2	51.5	52.8	52.8	53.4
7	53.4	55.1	54.1	54.4	52.8	48.6	45.4	41.8	37.3	35.7	36.3	36.0
8	38.9	44.1	42.1	40.2	42.4	45.0	44.7	45.0	45.7	45.4	45.0	45.0
9	45.4	45.7	45.0	45.0	45.0	45.4	45.4	45.0	45.0	45.4	46.4	47.0
10	52.4	52.1	48.3	45.4	44.7	45.0	44.4	44.7	44.7	43.1	38.3	42.7
11	46.7	46.7	41.8	36.3	37.0	38.6	41.8	40.8	39.2	38.3	38.9	40.2
12	42.7	44.1	45.0	45.0	44.7	44.4	44.1	44.4	44.4	43.4	42.4	43.7
13	44.4	45.0	43.7	43.1	43.1	43.1	43.1	43.7	42.4	43.1	42.1	43.1
14	44.1	44.4	43.7	44.4	43.7	43.7	44.4	44.7	46.0	47.0	47.7	48.9
15	50.2	50.9	49.2	48.9	48.6	48.6	48.9	49.6	49.2	49.2	48.6	51.8
16	53.1	54.1	48.6	46.7	46.4	47.7	47.7	46.7	46.7	47.7	49.9	52.1
17	52.4	53.8	53.1	52.1	50.2	50.9	52.8	52.4	51.8	52.4	51.2	49.9
18	49.6	49.9	47.7	48.6	47.7	47.0	45.4	42.7	40.2	38.0	37.0	38.9
19	42.4	44.1	40.8	37.0	34.7	35.7	33.4	34.0	32.4	34.7	35.3	39.9
20	46.0	46.0	45.4	40.8	42.4	41.5	41.2	41.8	44.1	47.0	49.6	51.5
21	51.8	51.5	52.1	51.8	52.1	52.1	51.5	50.9	49.9	48.9	49.2	50.6
22	52.8	53.1	53.8	53.4	52.1	52.4	52.8	52.4	52.8	52.1	51.8	51.8
23	53.1	53.4	52.1	51.5	50.9	48.9	49.9	49.9	49.2	48.9	47.4	48.9
24	51.2	51.2	49.9	49.2	49.2	48.9	48.3	47.4	47.4	48.6	49.2	51.5
25	51.8	49.6	44.7	47.0	43.7	39.9	39.5	40.2	42.1	42.7	43.1	45.0
26	46.7	46.4	45.0	43.7	43.4	43.1	42.4	42.1	42.1	41.8	41.8	43.1
27	44.4	44.7	42.4	41.2	38.9	35.3	33.0	33.7	32.7	34.7	36.0	39.5
28	44.1	45.7	44.7	44.7	43.7	42.7	43.7	43.1	42.4	41.5	40.2	40.5
29	42.4	42.4	42.4	43.1	41.2	39.9	37.6	35.7	35.0	36.3	36.6	36.3
30	41.5	43.1	42.1	41.2	41.2	40.2	38.3	38.0	37.6	34.7	33.4	32.4
31	34.3	35.7	37.0	37.6	38.6	38.3	38.3	38.6	38.0	35.3	33.0	34.0
Mean	47.9	48.5	46.9	45.8	45.3	44.9	44.3	44.1	43.8	43.6	43.7	45.2

Reduction to Standard Thermometer 0°o.

HYGROGRAPH.

DECEMBER, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	°	°	°	°	°	°	°	°	°	°	°	°
1	46.7	48.3	48.6	48.6	48.9	47.7	43.7	43.7	45.0	48.0	48.9	51.2
2	53.4	53.4	51.2	48.6	48.0	48.0	48.3	48.6	48.6	48.3	48.3	49.9
3	51.5	52.4	52.4	52.4	51.8	50.2	49.2	48.6	47.0	45.0	43.7	45.0
4	46.0	46.0	44.0	41.5	39.8	38.9	38.3	38.3	37.6	38.6	39.2	41.2
5	45.0	46.7	43.1	41.2	40.2	40.8	40.8	42.4	43.1	46.0	46.0	48.9
6	51.5	51.2	49.6	50.2	49.9	50.2	48.3	49.6	50.9	51.5	51.5	51.8
7	51.8	52.1	51.5	51.8	50.9	46.7	44.7	41.5	36.6	35.3	36.3	36.0
8	38.6	43.7	41.8	40.2	41.8	44.7	44.4	44.7	44.0	43.4	43.4	43.1
9	43.4	43.7	43.1	43.1	43.4	43.4	43.4	43.4	43.4	44.0	45.0	45.0
10	50.6	49.6	47.0	44.7	44.4	44.7	44.4	44.4	44.0	42.4	38.3	42.4
11	44.0	44.0	40.8	36.0	36.6	38.3	40.8	39.8	38.9	38.0	38.3	39.2
12	40.5	42.1	43.1	43.4	43.1	42.7	42.4	42.7	42.7	42.1	41.2	42.1
13	42.4	43.4	42.4	41.8	41.2	40.8	40.8	41.2	40.5	40.2	39.8	40.5
14	41.5	41.8	41.5	41.8	41.2	41.8	42.7	42.7	44.4	45.4	46.0	47.0
15	48.3	48.6	47.7	47.0	47.0	47.7	47.7	47.7	47.7	47.4	47.0	49.6
16	50.9	50.9	47.0	45.0	44.7	46.7	46.0	45.0	45.0	46.3	48.9	49.9
17	51.2	50.6	49.9	49.2	47.7	48.9	50.9	50.6	50.6	50.6	48.9	48.3
18	47.0	46.7	46.0	47.4	46.7	45.7	44.4	41.8	39.5	37.6	36.6	38.3
19	41.2	41.8	39.5	36.6	34.6	35.3	32.8	33.4	32.2	34.0	34.6	38.6
20	43.4	43.7	43.1	38.9	40.2	39.2	38.9	40.2	42.7	46.0	47.7	49.6
21	49.6	49.2	49.2	49.9	50.2	49.9	48.6	48.0	47.4	46.3	46.3	47.7
22	49.9	50.9	51.2	51.2	50.9	50.9	50.9	50.9	50.6	49.9	49.2	49.2
23	49.6	49.6	48.9	48.3	48.3	46.7	47.0	47.0	47.0	46.7	45.7	46.7
24	47.7	47.0	46.0	45.7	45.7	45.7	45.4	44.0	44.7	46.3	47.7	49.9
25	47.0	45.7	42.7	44.4	42.1	39.2	38.9	39.5	40.8	41.2	40.5	41.8
26	42.7	41.2	41.5	41.2	40.2	39.2	39.5	39.2	38.9	38.6	38.6	39.8
27	40.2	40.8	39.5	39.2	37.0	34.3	32.4	33.1	32.5	34.0	35.7	38.6
28	42.7	43.7	43.1	42.7	42.7	42.1	42.7	42.1	41.8	41.2	39.8	40.2
29	42.1	42.1	41.8	42.7	40.8	39.8	38.0	35.7	35.0	35.7	36.6	36.0
30	40.8	42.1	41.5	40.8	40.5	38.9	37.3	37.3	37.0	34.3	33.1	32.5
31	34.3	35.7	36.0	36.6	37.0	36.3	36.3	36.3	36.6	34.6	32.8	33.4
Mean	45.7	45.4	45.0	44.3	43.8	43.4	42.9	42.7	42.5	42.5	42.4	43.7

Reduction to Standard + 0°.3.

ANEMOGRAPH. DIRECTION.

JANUARY, 1857.

HOURS RECKONED FROM NOON.															
Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
1856. Dec. 31	Div.	Div.	Div.	Div.	Div.	Div.	Div. (11.0)	Div. (11.0)	Div. (11.0)	Div. (11.5)	Div. (11.5)	Div. (11.5)			
1857. Jan. 1	11.0	11.0	11.0	10.5	12.0	12.0	12.0	11.5	11.5	11.5	11.5	11.5			
2	12.0	12.0	11.5	11.0	11.0	11.0	11.0	8.5	8.0	8.0	8.0	12.0			
3	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5			
4	13.0	14.0	15.0	0.5	5.0	7.5	12.0	14.0	1.0	11.0	11.5	11.5			
5	12.0	12.0	13.0	13.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0			
6	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0			
7	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0			
8	15.0	15.0	14.5	14.5	14.5	14.5	14.5	14.5	14.5	15.0	15.0	15.0			
9	15.0	13.0	13.0	13.0	13.0	13.0	1.0	0.5	15.5	14.0	0.5	3.0			
10	1.0	13.0	0.0	3.0	12.5	15.5	15.5	0.0	2.5	3.0	2.5	2.5			
11	2.5	2.5	4.0	4.0	4.0	2.0	1.0	1.5	0.5	0.5	0.5	0.5			
12	15.0	15.0	14.5	14.5	14.5	14.5	11.5	11.5	11.5	11.5	11.5	11.5			
13	11.5	11.5	11.0	10.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5			
14	11.5	11.5	11.0	11.0	11.0	10.0	10.0	10.0	10.0	8.5	8.0	8.0			
15	9.5	9.5	10.5	10.5	12.0	12.0	12.0	12.0	12.0	10.0	10.0	10.0			
16	9.0	11.0	10.5	10.5	10.5	10.5	9.5	9.0	9.0	9.0	9.5	9.5			
17	9.5	9.5	9.0	9.0	9.0	9.0	9.5	9.0	9.0	9.0	9.0	9.0			
18	9.0	9.0	9.5	9.0	9.5	9.5	9.5	9.5	9.5	9.5	14.5	12.0			
19	12.5	13.0	12.0	12.0	12.0	12.0	11.5	6.5	10.0	10.0	8.5	8.0			
20	11.0	12.0	11.0	9.5	10.5	10.0	11.0	11.0	11.0	11.0	11.0	11.0			
21	10.0	10.0	10.0	10.0	10.0	12.0	12.0	14.0	14.0	14.0	14.0	14.0			
22	10.5	9.5	9.5	10.0	8.5	8.5	10.0	11.0	9.0	9.5	9.5	9.0			
23	9.0	8.5	10.5	10.0	9.0	7.5	7.5	10.0	10.0	10.5	11.5	11.0			
24	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
25	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
26	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
29	.....	.....	(11.0)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	(10.5)	
30	11.0	11.0	11.0	7.5	7.5	7.5	11.0	11.0	11.0	11.0	11.0	11.0			
31	12.5	11.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5	5.5			
Mean of 25 days	268°	267°	262°	245°	253°	258°	266°	267°	264°	254°	265°	263°			
Inten- sity	.61	.67	.62	.47	.50	.47	.57	.46	.44	.50	.44	.45			
0 { N 0°	1 { NNE 22° 5	2 { NE 45°	3 { ENE 67° 5	4 { E 90°	5 { ESE 112° 5	6 { SE 135°	7 { SSE 157° ½	8 { S 180°	9 { SSW 202° 5	10 { SW 225°	11 { WSW 247° ½	12 { W 270°	13 { WNW 292° 5	14 { NW 315°	15 { NNW 337° 5

ANEMOGRAPH. VELOCITY.

JANUARY, 1857.

HOURS RECKONED FROM NOON.

Day.	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
1856.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Dec. 31	.....	.....	.....	.....	.....	.....	4.5	23.0	19.0	19.0	10.5	15.0
1857.												
Jan. 1	17.5	29.5	16.0	12.0	13.5	11.0	12.0	16.0	19.0	17.5	17.5	25.5
2	28.5	29.0	23.0	19.0	12.0	17.5	9.5	9.5	9.5	15.0	15.0	22.0
3	38.5	30.5	29.5	43.5	40.5	36.5	38.0	35.5	35.0	35.0	35.0	26.0
4	18.5	13.5	13.0	17.0	17.5	23.0	23.0	26.0	29.5	30.0	29.5	17.5
5	30.0	23.5	27.0	17.0	18.0	16.0	16.0	16.0	13.0	20.0	17.0	25.0
6	23.0	20.0	26.0	27.0	24.0	14.5	17.0	17.0	20.0	8.0	4.5	8.0
7	10.5	6.5	5.0	4.0	2.0	3.0	4.0	2.0	6.0	10.5	6.0	7.5
8	6.5	5.0	5.0	2.0	2.0	2.0	2.0	5.0	4.0	9.0	13.5	13.5
9	16.0	16.0	17.5	14.5	12.0	17.0	16.0	16.0	16.0	16.0	16.0	21.5
10	12.0	20.0	16.0	16.0	13.0	16.0	12.0	7.5	4.0	2.0	8.0	17.0
11	21.0	20.0	16.0	10.5	13.5	9.0	12.0	10.5	7.5	12.0	4.0	3.0
12	4.5	4.5	8.0	7.5	3.0	5.0	8.0	8.0	6.0	8.0	8.0	9.0
13	5.0	6.5	8.0	8.0	8.0	6.5	6.0	8.0	6.5	8.0	7.5	6.5
14	8.0	8.0	6.5	3.0	4.5	8.0	4.5	2.0	4.0	4.0	5.0	8.0
15	8.0	9.0	6.5	6.5	6.0	4.0	4.0	3.0	6.0	6.0	6.5	14.5
16	(13.0)	(11.0)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17	.....	.....	.....	(10.5)	(9.5)	(9.5)	(16.0)	(18.0)	(16.5)	(14.5)	(9.5)	.....
18	.....	.....	(23.0)	(17.5)	(17.5)	(19.0)	(25.0)	(21.0)	(25.5)	(25.0)	(15.0)	(4.0)
19	8.0	8.0	6.0	4.5	4.5	3.0	5.0	5.0	9.5	13.0	13.5	15.0
20	13.0	10.5	9.0	7.5	12.0	13.0	11.0	7.5	7.5	10.5	7.5	13.5
21	9.5	11.0	9.5	6.5	6.5	4.5	2.0	7.5	5.0	5.0	4.0	4.0
22	6.5	10.5	12.0	16.5	31.5	23.0	23.0	22.0	9.5	17.5	23.5	20.0
23	(28.5)	(23.0)	(25.0)	(23.0)	(25.0)	(24.0)	(32.0)	(29.5)	.....	.....	.....	.....
24	9.5	7.5	8.0	11.0	13.0	13.0	13.0	16.5	16.5	21.0	22.0	21.0
25	23.0	30.5	25.5	20.0	18.0	27.0	8.0	11.0	14.5	17.0	16.5	21.0
26	17.5	13.5	17.5	17.5	22.5	19.0	17.5	16.5	17.5	17.5	16.0	16.0
27	16.0	14.5	11.0	7.5	9.0	11.0	3.0	1.0	1.0	1.0	0.0	4.0
28	5.0	6.0	4.5	8.0	2.0	3.0	12.0	14.5	5.0	3.0	6.0	8.0
29	13.5	10.5	6.0	4.0	2.0	4.0	14.5	8.0	10.5	5.0	8.0	4.0
30	13.5	12.0	10.5	8.0	6.5	13.0	9.5	14.5	5.0	4.0	5.0	5.0
31	8.0	11.0	8.0	4.5	4.5	4.0	5.0	4.5	6.0	10.5	9.0	11.0
Sum of 27 days	390.5	387.0	340.5	323.0	321.5	326.5	307.5	310.5	293.5	326.0	324.0	367.0
Mean	14.5	14.3	12.6	12.0	11.9	12.1	11.4	11.5	10.9	12.1	12.0	13.6
Relative Velocity	1.17	1.15	1.02	0.97	0.96	0.98	0.92	0.93	0.88	0.98	0.97	1.09

ANEMOGRAPH. DIRECTION.

FEBRUARY, 1857.

HOURS RECKONED FROM NOON.															
Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	5.5	3.0	15.5	15.5	15.5	15.5	0.0	0.0	0.0	6.0	6.5	6.0			
2	6.5	7.0	6.0	6.0	5.5	4.0	3.5	3.5	3.0	3.0	3.0	3.0			
3	2.5	2.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
4	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
5	15.0	10.0	10.0	10.5	10.5	10.0	10.0	10.0	10.0	10.0	10.5	10.5			
6	10.5	10.5	10.0	10.0	10.0	10.0	11.0	11.0	11.0	7.0	10.5	11.0			
7	11.0	11.0	10.0	7.0	7.5	7.0	7.0	7.5	6.5	7.0	7.0	7.5			
8	7.0	7.0	7.0	7.0	7.0	7.5	7.0	6.0	6.5	7.0	7.0	7.0			
9	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.5	11.0	7.5	7.0			
10	11.0	11.0	10.0	10.5	10.5	10.5	8.0	10.0	10.0	10.0	10.5	10.5			
11	10.5	10.5	11.0	11.0	11.0	14.5	15.0	15.0	11.0	11.0	10.5	11.0			
12	11.0	11.0	11.5	11.5	11.5	10.5	10.5	11.0	10.0	10.0	10.0	10.0			
13	11.0	11.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5			
14	8.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	3.0	3.0	3.0			
15	2.5	2.5	3.0	3.0	3.0	4.5	7.0	7.0	7.0	7.0	7.0	7.0			
16	7.0	6.5	7.0	7.0	6.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
17	7.0	6.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
18	7.5	11.0	10.5	10.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5			
19	8.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	10.0			
20	7.5	10.5	9.0	8.5	10.5	9.5	10.0	10.0	9.0	9.0	7.5	11.0			
21	11.0	11.0	11.0	10.5	8.0	8.0	10.0	8.0	8.0	7.5	11.0	11.0			
22	11.0	11.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
23	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	5.5	6.5	6.0	6.0			
24	5.0	5.5	6.5	3.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
25	10.0	12.0	13.5	15.5	15.5	15.5	14.0	14.0	14.0	14.0	14.0	14.0			
26	14.0	14.0	11.0	10.5	10.5	10.5	10.0	8.0	8.0	8.0	8.0	8.0			
27	8.5	10.0	10.0	10.0	10.0	10.0	10.0	8.5	10.0	9.5	11.0	11.0			
28	12.0	11.0	13.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	0.5			
Mean	200°	214°	206°	195°	190°	185°	189°	181°	186°	175°	180°	188°			
Inten- sity	.38	.33	.35	.22	.29	.27	.33	.33	.42	.47	.44	.43			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157½°	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°½	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

ANEMOGRAPH. VELOCITY.

FEBRUARY, 1857.

Day.	HOURS RECKONED FROM NOON.											
	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	9.0	11.0	4.0	2.0	2.0	7.5	6.0	6.0	4.5	9.5	12.0	9.5
2	8.0	12.0	9.0	9.5	10.5	11.0	16.0	18.0	15.0	15.0	16.0	17.5
3	22.5	18.0	16.0	9.0	6.5	14.5	8.0	4.5	6.0	9.0	3.0	4.0
4	7.5	7.5	6.5	4.5	1.0	1.0	1.0	1.0	4.5	4.5	5.0	6.0
5	9.5	11.0	12.0	8.0	5.0	9.5	6.5	8.0	11.0	17.0	20.0	20.0
6	22.0	21.0	20.0	5.0	4.5	5.0	11.0	13.5	10.5	9.5	8.0	13.5
7	15.0	14.5	15.0	9.0	10.5	9.0	16.5	11.0	7.5	13.0	13.0	10.5
8	13.0	13.0	13.0	13.0	12.0	7.5	12.0	9.5	11.0	11.0	10.5	11.0
9	17.5	17.0	20.0	17.0	19.0	21.0	17.5	18.0	22.0	12.0	8.0	10.5
10	12.0	12.0	15.0	8.0	9.0	8.0	6.0	9.0	12.0	16.0	21.0	21.0
11	23.0	32.0	32.0	26.0	32.5	22.0	6.5	4.0	11.0	7.5	11.0	16.0
12	17.5	16.0	13.5	8.0	6.5	9.5	8.0	10.5	9.0	12.0	11.0	11.0
13	13.5	17.0	13.0	10.5	11.0	9.5	4.0	6.5	2.0	2.0	4.5	4.5
14	7.5	4.5	6.0	2.0	1.0	1.0	1.0	2.0	5.0	12.0	13.5	11.0
15	13.5	15.0	16.0	13.5	4.5	4.5	5.0	3.0	4.5	0.0	2.0	4.0
16	3.0	8.0	6.0	5.0	9.5	5.0	6.0	2.0	5.0	5.0	4.5	6.0
17	6.0	6.0	4.0	4.5	4.5	5.0	2.0	1.0	1.0	2.0	6.0	7.5
18	11.0	9.5	10.5	9.0	3.0	4.0	1.0	1.0	1.0	2.0	1.0	3.0
19	3.0	7.5	5.0	2.0	1.0	1.0	1.0	1.0	2.0	2.0	3.0	6.5
20	5.0	6.0	9.0	6.0	8.0	5.0	6.0	8.0	2.0	4.5	5.0	6.5
21	13.5	16.5	13.0	15.0	12.0	9.5	7.5	9.0	9.0	7.5	9.0	9.0
22	12.0	16.0	9.5	13.0	8.0	5.0	5.0	5.0	4.0	1.0	1.0	2.0
23	4.5	9.5	6.0	5.0	2.0	2.0	1.0	2.0	4.0	6.0	6.5	6.0
24	8.0	8.0	6.5	4.5	6.0	5.0	3.0	1.0	1.0	2.0	2.0	4.0
25	6.5	9.5	8.0	7.5	4.0	4.0	4.0	2.0	3.0	1.0	4.5	3.0
26	3.0	3.0	9.5	5.0	1.0	4.0	3.0	4.0	6.0	3.0	4.5	4.5
27	8.0	16.0	16.0	10.5	6.0	4.5	9.0	6.5	8.0	10.5	7.5	13.0
28	14.5	8.0	6.5	4.0	0.0	2.0	1.0	2.0	1.0	4.5	4.5	10.5
Sum	309.0	344.0	320.5	236.0	200.5	196.5	174.5	169.0	182.5	201.0	217.5	251.5
Mean	11.0	12.3	11.5	8.4	7.2	7.0	6.2	6.0	6.5	7.2	7.8	9.0
Relative Velocity	1.32	1.47	1.38	1.01	0.86	0.85	0.74	0.72	0.78	0.86	0.93	1.08

ANEMOGRAPH. DIRECTION.

MARCH, 1857.

HOURS RECKONED FROM NOON.															
Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	2.0	2.5	2.5	2.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5			
2	2.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
3	3.0	3.0	3.0	3.0	3.5	6.5	10.0	10.5	10.5	10.5	11.0	10.5			
4	11.0	11.0	11.0	11.0	15.0	14.5	14.5	13.5	13.5	13.5	11.0	11.0			
5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5			
6	10.5	10.5	11.5	11.0	11.5	11.5	11.5	11.0	10.5	10.5	10.0	11.0			
7	11.0	11.0	11.0	12.0	11.0	10.5	10.5	10.5	10.0	10.5	10.5	11.0			
8	11.0	11.0	12.0	11.5	11.0	11.0	11.0	13.0	14.0	14.5	0.0	0.0			
9	0.0	0.0	15.5	15.0	15.0	15.0	14.5	14.0	14.0	14.0	14.0	15.5			
10	0.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	0.0	7.0			
11	7.0	7.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.5	9.0	11.0			
12	11.0	11.0	11.5	10.0	10.0	10.5	7.5	7.0	7.0	7.5	7.0	7.0			
13	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.5	10.5			
14	10.5	10.5	11.0	10.5	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0			
15	11.0	11.0	11.0	11.0	11.0	11.0	10.5	10.0	10.0	10.0	10.0	10.5			
16	10.5	10.5	10.0	10.0	8.5	7.5	7.5	6.5	6.5	6.5	3.5	6.5			
17	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	6.5	6.0			
18	6.5	7.5	6.5	6.0	7.0	7.0	7.0	7.0	7.0	15.0	15.0	15.5			
19	0.5	2.0	2.0	2.0	2.5	6.0	6.0	6.0	6.0	4.0	4.0	3.5			
20	4.0	3.5	3.0	2.5	2.5	2.5	3.0	2.5	2.5	2.5	2.5	2.5			
21	2.5	2.5	2.5	2.5	2.5	1.5	1.5	1.5	0.0	15.5	15.5	15.5			
22	15.5	15.5	15.5	15.5	14.0	12.5	13.0	13.0	10.5	10.5	10.5	10.5			
23	10.0	10.5	10.5	7.5	7.5	7.5	7.0	7.0	6.5	6.5	6.5	7.0			
24	7.0	6.5	3.5	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
25	5.0	7.0	7.0	7.0	11.0	10.5	10.5	10.0	10.0	10.0	10.0	10.0			
26	14.0	14.0	13.0	14.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5			
27	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	1.0			
28	3.0	3.5	3.5	3.5	5.0	3.5	5.5	3.5	6.0	6.5	7.0	7.0			
29	7.0	7.0	6.5	7.0	6.0	6.5	6.5	6.5	6.0	7.0	9.5	10.5			
30	10.5	10.5	10.5	10.5	11.0	11.0	10.5	10.5	10.5	10.5	10.5	10.5			
31	10.5	10.5	11.0	13.5	11.5	12.5	11.5	11.5	10.5	10.5	10.5	10.5			
Meandi- rection	219°	206°	217°	241°	230°	227°	208°	197°	201°	226°	271°	240°			
Inten- sity	.14	.20	.10	.14	.09	.12	.19	.10	.21	.17	.16	.25			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157°.5	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°.5	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

March 30. The reading at 0^h is interpolated, the carriage having stopped.

ANEMOGRAPH. VELOCITY.

MARCH, 1857.

Day.	HOURS RECKONED FROM NOON.											
	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	9.0	14.5	14.5	9.5	8.0	8.0	4.5	6.5	6.5	10.5	9.0	10.5
2	13.0	11.0	8.0	6.5	3.0	5.0	6.0	4.5	2.0	4.0	3.0	7.5
3	4.5	4.5	4.0	3.0	4.0	4.0	4.5	11.0	9.0	9.5	12.0	18.0
4	23.5	25.0	29.5	18.0	13.0	16.0	8.0	5.0	6.0	2.0	6.5	6.5
5	(10.5)	.....	.....	(16.5)	(19.0)	(32.5)	(31.5)	(29.5)	(29.5)	(17.5)	(17.5)	(13.5)
6	16.0	14.5	17.5	13.5	9.5	10.5	6.5	15.0	16.5	9.0	12.0	6.5
7	23.0	20.0	11.0	19.0	12.0	13.5	9.5	14.5	14.5	21.0	26.0	32.0
8	30.0	24.0	17.5	17.0	19.0	19.0	13.5	9.0	7.5	14.5	17.0	23.0
9	32.0	32.0	29.5	18.0	17.0	9.5	8.0	8.0	6.5	4.0	4.0	10.5
10	9.5	6.0	4.5	2.0	1.0	1.0	3.0	4.0	2.0	2.0	4.0	6.5
11	10.5	11.0	9.0	8.0	6.0	2.0	4.0	3.0	0.0	4.0	5.0	9.0
12	8.0	10.5	9.0	3.0	7.5	9.0	5.0	8.0	8.0	10.5	15.0	21.0
13	22.5	21.0	23.0	22.5	11.0	8.0	10.5	13.0	21.0	29.5	23.5	37.0
14	47.0	29.5	56.0	30.0	14.5	12.0	29.5	32.0	34.0	47.5	46.0	39.0
15	36.5	39.0	49.0	35.0	29.5	29.5	22.0	37.0	22.5	20.0	8.0	9.5
16	22.5	21.0	19.0	9.5	7.5	5.0	6.5	5.0	4.5	4.0	5.0	10.5
17	13.0	12.0	10.5	11.0	6.5	4.0	2.0	1.0	1.0	3.0	4.0	4.5
18	7.5	10.5	8.0	7.5	4.5	1.0	2.0	2.0	3.0	6.5	9.5	11.0
19	6.5	7.5	4.0	4.0	3.0	4.0	2.0	1.0	3.0	6.5	7.5	8.0
20	11.0	9.5	16.0	16.0	17.0	15.0	16.0	18.0	20.0	20.0	27.0	22.0
21	34.5	31.5	30.5	33.5	25.5	23.5	17.0	16.5	12.0	12.0	7.5	13.5
22	28.0	20.0	17.0	12.0	10.0	6.5	3.5	5.0	10.0	14.5	12.0	17.0
23	11.5	16.0	8.0	9.0	8.0	7.5	6.5	5.0	5.0	2.5	4.0	10.0
24	10.5	10.0	9.0	9.0	19.5	24.0	18.5	20.0	18.0	16.0	18.0	18.0
25	11.5	11.5	11.5	6.0	17.0	17.0	16.0	7.5	2.5	3.5	6.0	10.0
26	4.5	5.0	4.0	6.0	6.0	6.0	2.5	2.0	2.0	2.0	4.0	4.0
27	4.0	2.5	2.5	1.0	0.0	0.0	0.0	0.0	2.0	1.0	2.0	7.5
28	10.0	10.5	10.0	10.0	8.0	7.5	6.0	8.0	6.0	6.5	7.5	7.5
29	12.0	14.0	11.5	13.0	8.0	6.0	4.0	1.0	4.0	9.0	13.0	10.5
30	15.0	16.0	19.0	23.0	23.5	24.0	22.0	17.0	14.5	14.5	11.0	13.5
31	14.5	17.5	18.0	9.5	12.0	9.5	8.0	9.5	8.0	8.0	16.0	12.0
Sum of 30 days	501.5	477.5	480.5	395.0	331.0	307.5	268.0	289.0	271.5	317.5	345.0	416.0
Mean	16.7	15.9	16.0	13.2	11.0	10.3	8.9	9.6	9.0	10.6	11.5	13.9
Relative Velocity	1.37	1.31	1.32	1.08	0.91	0.85	0.73	0.79	0.74	0.87	0.94	1.14

March 30. The reading at 22—0 is interpolated, the carriage having stopped.

ANEMOGRAPH. DIRECTION.

APRIL, 1857.

	HOURS RECKONED FROM NOON.														
Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	11.0	10.0	7.0	6.0	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
2	11.0	11.0	11.0	7.0	7.0	6.5	7.0	7.0	7.0	7.0	7.0	10.5			
3	10.5	10.5	10.5	10.0	10.0	10.0	10.0	10.0	9.0	9.0	5.5	6.5			
4	6.5	6.5	6.5	6.5	7.0	7.5	7.0	7.0	6.5	6.5	6.5	6.5			
5	7.0	6.5	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.5	6.5			
6	10.5	10.5	10.5	10.5	10.5	10.5	10.0	10.0	10.0	10.5	10.5	10.5			
7	10.5	10.5	10.5	10.0	9.5	10.0	10.5	10.5	7.5	7.5	10.0	10.5			
8	11.0	11.0	11.0	11.0	11.0	10.5	8.0	7.5	6.5	6.5	6.5	6.0			
9	7.0	7.0	7.0	7.0	7.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0			
10	7.0	7.0	7.0	7.0	9.0	12.0	0.0	0.0	0.0	14.0	15.0	0.0			
11	0.0	0.0	12.5	11.0	10.0	10.5	10.0	10.0	10.5	11.0	11.0	11.0			
12	11.0	11.0	10.5	10.0	9.5	11.0	11.0	11.0	11.0	11.0	11.0	11.0			
13	11.0	11.0	11.0	11.0	11.0	12.0	11.5	11.5	11.0	11.0	12.5	12.0			
14	12.0	12.0	13.5	0.5	10.5	11.0	11.0	11.0	11.0	11.0	11.0	10.0			
15	11.0	10.5	10.5	9.5	10.5	10.5	8.0	8.0	8.0	7.0	7.0	7.0			
16	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
17	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
18	7.0	7.0	7.0	6.5	5.0	6.5	7.0	6.0	6.5	7.5	10.5	10.5			
19	10.5	10.5	10.5	10.5	10.0	10.0	10.0	10.5	10.5	10.5	10.5	10.5			
20	10.5	10.5	12.0	12.5	12.5	12.5	10.5	10.5	10.0	9.5	11.5	0.0			
21	0.0	0.0	0.0	14.0	13.5	11.0	11.5	10.5	10.5	11.0	11.0	11.0			
22	11.0	11.0	0.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0			
23	1.5	1.5	1.5	1.5	1.5	2.0	2.0	2.0	2.0	2.0	1.5	1.5			
24	2.0	7.0	6.5	7.0	6.5	5.0	4.0	4.5	4.5	4.5	4.0	5.5			
25	5.0	4.0	4.0	3.0	2.0	2.5	1.5	2.0	2.0	1.5	2.0	2.0			
26	2.0	2.0	1.5	1.5	1.5	0.0	15.5	15.5	15.5	15.5	15.5	1.5			
27	1.5	1.0	1.0	1.5	0.5	0.5	0.5	0.5	0.5	0.0	15.5	1.5			
28	15.5	1.0	0.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	1.0	15.5			
29	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5			
30	1.5	1.5	15.5	15.5	1.0	1.0	1.0	1.0	1.0	1.0	0.5	15.5			
Meandi- rection	{ 230°	221°	227°	183°	186°	222°	200°	192°	173°	185°	252°	214°			
Inten- sity	{ .21	.28	.20	.19	.23	.20	.17	.17	.22	.19	.07	.08			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157°.5	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°.5	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

April 3. The direction under 0^h is interpolated, the instrument having been stopped at that time.

ANEMOGRAPH. VELOCITY.

APRIL, 1857.

Day.	HOURS RECKONED FROM NOON.											
	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	10.5	11.0	13.5	10.5	7.5	10.5	12.0	13.0	15.0	13.5	12.0	16.0
2	23.0	23.0	19.0	13.5	11.0	9.0	5.0	2.0	4.0	2.0	3.0	6.0
3	.....	(12.0)	(17.0)	(11.0)	(13.0)	(8.0)	(4.5)	(6.5)	(1.0)	(1.0)	(4.5)	(6.0)
4	6.0	9.0	8.0	8.0	7.5	6.5	6.5	10.5	6.0	4.0	6.0	5.0
5	6.5	6.5	9.0	4.5	3.0	1.0	1.0	1.0	0.0	1.0	5.0	4.0
6	4.5	12.0	11.0	17.5	9.5	6.0	8.0	10.5	6.0	1.0	4.0	9.5
7	10.5	20.0	16.5	17.5	11.0	10.5	8.0	7.5	4.0	5.0	5.0	9.5
8	12.0	10.5	12.0	14.5	13.0	8.0	4.5	12.0	5.0	4.0	4.5	6.0
9	11.0	10.5	11.0	8.0	3.0	4.0	1.0	2.0	1.0	1.0	1.0	2.0
10	4.5	5.0	5.0	2.0	2.0	6.0	6.0	2.0	4.0	9.0	13.0	13.0
11	10.5	13.0	11.0	16.5	15.0	16.5	14.5	13.5	13.0	12.0	20.0	21.0
12	16.0	25.0	23.0	18.0	10.5	15.0	16.0	17.0	22.5	24.0	26.0	17.0
13	23.0	17.0	22.0	17.0	17.5	11.0	13.5	10.5	12.0	12.0	9.5	9.5
14	7.5	11.0	9.5	6.5	11.0	7.5	2.0	2.0	4.0	5.0	6.5	9.5
15	9.5	12.0	13.5	9.0	5.0	3.0	4.0	3.0	4.0	1.0	4.5	9.0
16	7.5	9.0	11.0	8.0	3.0	3.0	5.0	4.0	6.5	9.0	11.0	12.0
17	13.5	14.5	20.0	19.0	16.0	11.0	9.0	9.0	6.5	8.0	9.0	11.0
18	12.0	16.5	15.0	12.0	5.0	4.0	4.5	6.5	6.5	6.5	11.0	13.5
19	16.0	17.0	16.0	13.0	6.0	9.0	4.0	4.0	4.0	7.5	6.5	7.5
20	16.5	16.5	13.0	9.5	5.0	4.0	10.5	9.5	12.0	12.0	12.0	12.0
21	13.0	12.0	15.0	10.5	6.5	4.0	8.0	11.0	13.5	17.5	16.0	16.0
22	18.0	17.0	13.0	15.0	9.0	0.0	0.0	0.0	0.0	11.0	11.0	11.0
23	11.0	11.0	16.0	16.0	13.5	11.0	4.5	1.0	0.0	0.0	5.0	8.0
24	8.0	6.0	6.5	6.0	5.0	4.0	4.0	5.0	4.0	5.0	5.0	9.0
25	7.5	16.0	13.5	15.0	15.0	13.5	13.5	13.5	21.0	16.0	17.0	17.0
26	19.0	22.5	20.0	22.0	17.5	12.0	13.0	11.0	13.5	11.0	15.0	10.5
27	12.0	15.0	13.0	11.0	8.0	5.0	6.5	6.0	6.0	7.5	9.0	9.5
28	7.5	7.5	6.5	7.5	4.0	1.0	1.0	1.0	0.0	2.0	6.0	11.0
29	12.0	12.0	13.5	12.0	6.5	5.0	5.0	3.0	1.0	1.0	9.5	12.0
30	10.5	10.5	9.0	10.5	8.0	8.0	4.0	3.0	3.0	1.0	6.0	5.0
Sum of 29 days	339.0	388.5	385.0	350.0	254.5	209.0	194.5	194.0	174.0	209.5	269.0	302.0
Mean	11.3	12.9	12.8	11.7	8.5	7.0	6.5	6.5	5.8	7.0	9.0	10.1
Relative Velocity	1.24	1.42	1.41	1.29	0.94	0.77	0.72	0.72	0.64	0.77	0.99	1.11

April 3. The reading under 0—2, is the distance travelled between 22—2.

ANEMOGRAPH. DIRECTION.

MAY, 1857.

HOURS RECKONED FROM NOON.															
Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	1.5	2.0	15.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	1.0			
2	1.5	1.5	1.0	2.5	1.0	1.0	1.0	1.0	1.0	1.0	1.5	1.5			
3	1.5	1.5	1.5	1.5	1.5	1.5	1.5	0.5	0.0	1.5	1.5	1.5			
4	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5			
5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5			
6	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	2.0			
7	2.0	2.0	2.0	2.0	1.5	2.0	2.0	2.0	1.5	2.0	2.0	2.0			
8	2.0	2.0	2.0	1.5	1.5	1.5	1.5	1.0	1.0	2.0	2.0	3.0			
9	3.0	3.0	2.5	3.0	3.5	3.5	2.0	2.0	1.5	1.5	1.5	1.5			
10	2.0	2.0	2.0	2.0	1.5	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
11	1.0	1.0	1.0	0.0	0.5	0.5	0.5	0.5	0.5	6.5	7.0	7.0			
12	7.5	7.5	7.5	7.0	10.0	7.0	9.5	8.0	7.0	8.5	7.0	10.0			
13	6.0	3.0	2.5	2.5	4.5	5.0	3.0	3.0	3.0	3.0	3.0	3.0			
14	3.0	3.5	3.5	4.0	5.0	5.5	5.5	5.5	5.5	5.5	5.5	1.5			
15	15.0	15.5	15.5	15.5	15.5	15.5	15.5	14.0	14.0	14.0	14.0	14.0			
16	14.0	11.0	11.0	11.0	10.5	10.5	11.0	10.5	10.5	10.5	10.5	10.5			
17	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	9.5	9.5	11.0	10.5			
18	11.0	11.0	11.0	11.0	11.0	11.0	10.5	10.5	10.0	10.5	10.5	10.5			
19	10.5	10.5	10.5	10.5	10.0	10.0	10.5	10.5	10.5	10.5	10.5	10.5			
20	11.0	11.0	11.0	10.0	10.5	10.5	10.0	10.0	10.0	7.0	7.0	7.0			
21	10.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0			
22	10.0	4.0	4.0	4.0	4.0	4.0	4.0	0.5	0.0	1.0	1.5	2.0			
23	2.5	3.5	3.0	3.0	3.0	5.5	5.0	7.0	7.0	10.5	10.5	10.5			
24	11.0	11.0	11.0	11.0	8.0	8.0	8.0	8.0	8.0	3.5	3.5	3.5			
25	3.5	3.0	3.0	3.5	3.0	6.5	9.5	7.0	7.0	7.0	7.0	7.0			
26	7.0	7.0	7.0	7.0	7.0	6.5	6.5	6.5	6.5	6.5	7.0	7.0			
27	7.0	7.0	11.0	10.0	7.5	7.5	7.5	7.5	7.5	7.5	2.0	1.5			
28	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5			
29	1.5	1.5	1.5	0.5	0.5	1.5	0.5	0.5	0.5	1.0	1.0	1.0			
30	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.5			
31	2.0	3.0	3.0	3.5	4.0	4.0	4.0	4.0	4.0	1.5	3.0	3.0			
Meandi- rection.	{ 43°	42°	46°	47°	58°	80°	59°	52°	53°	64°	60°	55°			
Inten- sity.	{ .31	.32	.28	.27	.25	.24	.18	.16	.16	.20	.26	.32			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157°.5	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°.5	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

ANEMOGRAPH. VELOCITY.

MAY, 1857.

Day.	HOURS RECKONED FROM NOON.											
	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	9.0	7.5	11.0	6.0	4.0	1.0	0.0	1.0	0.0	1.0	4.5	7.5
2	8.0	13.0	14.5	10.5	10.5	2.0	0.0	0.0	1.0	4.0	11.0	13.0
3	17.5	24.0	22.0	25.0	16.0	17.0	8.0	7.5	7.5	8.0	22.0	17.0
4	23.0	20.0	18.0	20.0	13.0	9.0	0.0	4.0	2.0	4.0	8.0	11.0
5	13.0	16.0	10.5	13.5	6.5	6.0	4.5	2.0	1.0	0.0	6.5	13.0
6	16.0	16.0	16.0	16.0	13.0	9.0	4.0	4.0	0.0	2.0	11.0	20.0
7	17.0	16.0	16.5	16.0	13.5	12.0	4.5	6.0	8.0	13.5	15.0	21.0
8	16.0	16.0	16.0	16.5	16.5	12.0	5.0	6.0	5.0	11.0	10.5	12.0
9	17.0	13.5	13.0	13.5	12.0	6.5	1.0	5.0	8.0	13.5	15.0	22.0
10	14.5	16.0	12.0	15.0	16.0	10.5	6.0	6.5	10.5	9.5	8.0	15.0
11	13.0	9.5	12.0	9.0	6.5	3.0	0.0	2.0	1.0	2.0	6.5	7.5
12	9.0	11.0	9.0	8.0	6.5	6.0	4.0	4.5	6.5	6.5	5.0	6.5
13	6.0	6.0	9.0	6.5	4.5	7.5	6.5	6.5	4.5	5.0	6.5	7.5
14	8.0	10.5	12.0	12.5	4.0	3.0	1.0	1.0	1.0	2.0	4.0	6.0
15	4.0	5.0	6.0	6.5	3.0	4.0	3.0	1.0	1.0	2.0	4.5	4.5
16	2.0	8.0	10.5	17.0	8.0	9.0	9.0	9.5	8.0	8.0	9.0	13.0
17	15.0	11.0	13.5	13.5	9.5	9.0	6.0	4.5	8.0	6.5	6.0	9.5
18	13.0	16.5	20.0	19.0	16.0	17.5	17.5	9.5	12.0	11.0	13.5	17.5
19	18.0	19.0	18.0	9.0	6.5	11.0	5.0	9.5	9.5	8.0	9.0	8.0
20	10.5	10.5	15.0	12.0	6.5	4.0	3.0	4.5	3.0	6.0	6.5	10.5
21	13.0	12.0	12.0	13.0	9.0	4.5	0.0	1.0	1.0	0.0	1.0	2.0
22	3.0	5.0	4.0	5.0	3.0	3.0	2.0	3.0	5.5	6.0	10.5	16.0
23	14.5	13.5	4.5	9.0	9.0	6.0	2.0	2.0	4.5	10.5	13.5	14.5
24	18.0	14.5	11.0	9.5	4.5	0.0	0.0	0.0	0.0	4.0	7.5	8.0
25	10.5	12.0	16.5	18.0	8.0	4.5	3.0	4.0	4.0	2.0	9.5	9.5
26	9.5	10.5	9.0	13.0	8.0	3.0	4.5	5.0	4.5	4.0	10.5	9.5
27	10.5	9.5	8.0	7.5	2.0	1.0	1.0	1.0	0.0	1.0	5.0	9.0
28	14.5	13.5	12.0	16.0	13.0	11.0	10.5	11.0	13.0	11.0	10.5	13.0
29	12.0	11.0	8.0	6.0	1.0	6.5	9.5	5.0	6.5	6.0	9.0	10.5
30	11.0	13.0	12.0	9.0	5.0	2.0	5.0	8.0	8.0	9.0	13.0	10.5
31	16.0	13.0	13.0	13.0	6.0	4.0	2.0	2.0	2.0	4.5	6.5	8.0
Sum	382.0	392.5	384.5	384.0	260.5	204.5	127.5	136.5	146.5	181.5	278.5	352.5
Mean	12.3	12.7	12.4	12.4	8.4	6.6	4.1	4.4	4.7	5.9	9.0	11.4
Relative Velocity	1.42	1.46	1.43	1.43	0.97	0.76	0.48	0.50	0.54	0.68	1.04	1.31

ANEMOGRAPH. DIRECTION.

JUNE, 1857.

HOURS RECKONED FROM NOON.

Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	3.0	3.0	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	7.0	7.5			
2	7.5	7.0	7.0	7.0	7.0	7.5	7.5	7.5	7.5	7.5	10.0	10.0			
3	10.5	10.5	10.5	10.0	10.0	10.0	10.0	10.0	9.5	10.0	11.0	11.0			
4	11.0	11.0	11.0	11.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0			
5	15.0	14.5	10.0	8.5	8.5	8.5	8.5	9.5	10.5	10.5	15.0	15.0			
6	15.0	14.5	14.0	0.0	0.0	1.0	1.0	1.0	1.0	3.5	3.5	3.5			
7	6.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0			
8	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0			
9	10.5	10.0	10.0	10.0	9.5	10.0	10.5	10.5	10.5	10.5	10.5	10.5			
10	10.5	10.5	10.5	10.5	13.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0			
11	11.0	12.0	13.0	14.0	15.5	15.5	15.5	15.5	15.5	15.5	0.5	0.5			
12	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	7.0	7.0			
13	3.0	7.0	6.5	6.5	6.5	4.5	4.5	4.5	4.5	4.5	3.5	3.5			
14	3.0	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
15	3.0	3.0	3.0	3.0	3.0	2.0	1.5	1.5	1.5	1.5	1.5	1.5			
16	1.5	2.5	3.0	1.0	1.0	1.0	1.0	1.0	1.0	15.5	0.0	0.0			
17	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5			
18	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5			
19	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.0	6.0			
20	5.0	5.0	6.0	6.0	6.0	6.0	6.0	6.0	10.5	10.5	10.5	10.5			
21	10.5	11.0	15.0	15.5	12.0	12.0	13.5	14.5	14.5	14.5	14.5	14.5			
22	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5			
23	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
24	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5			
25	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
26	3.5	3.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
27	2.5	9.5	11.0	11.0	11.0	11.0	11.0	11.0	11.0	7.0	7.0	7.0			
28	7.0	8.0	10.5	10.5	10.5	8.0	11.0	11.0	11.0	11.0	11.0	10.5			
29	11.0	11.0	11.0	11.0	7.5	7.5	7.5	7.0	7.0	7.0	7.0	7.0			
30	7.0	11.5	11.0	12.5	14.0	14.0	14.0	14.0	14.0	14.0	15.5	15.5			
Mean di- rection	48°	111°	5°	40°	75°	81°	60°	56°	37°	61°	51°	78°			
Inten- sity	.26	.03	.01	.07	.12	.15	.15	.16	.12	.12	.12	.09			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157°.5	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°.5	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

ANEMOGRAPH. VELOCITY.

JUNE, 1857.

HOURS RECKONED FROM NOON.

Day.	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	.....	(19.0)	(6.0)	(9.0)	(4.5)	(5.0)	(2.0)	(3.0)	(4.0)	(3.0)	(5.0)	(9.0)
2	9.0	8.0	5.0	6.0	3.0	6.0	3.0	3.0	2.0	4.5	6.0	11.0
3	18.0	19.0	14.5	10.5	5.0	5.0	7.5	6.5	7.5	5.0	8.0	10.5
4	12.0	9.5	14.5	6.0	5.0	4.5	6.5	6.5	2.0	6.5	7.5	13.0
5	16.0	16.0	13.0	6.5	2.0	2.0	1.0	1.0	2.0	0.0	4.5	8.0
6	8.0	6.0	4.0	4.5	4.0	4.0	2.0	2.0	3.0	4.5	4.5	5.0
7	3.0	7.5	8.0	12.0	9.0	10.5	16.0	17.5	17.5	18.0	23.0	29.5
8	23.0	23.0	16.0	29.5	29.0	16.5	17.5	10.5	16.0	16.0	21.0	18.0
9	16.5	17.0	13.5	12.0	8.0	7.5	9.0	13.5	12.0	9.0	13.0	14.5
10	11.0	14.5	21.0	18.0	9.5	6.5	9.5	10.5	7.5	12.0	16.5	23.0
11	17.0	17.5	15.0	9.0	9.5	3.0	0.0	0.0	1.0	4.5	4.5	4.0
12	4.5	7.5	6.5	6.5	3.0	0.0	2.0	0.0	0.0	1.0	4.0	6.5
13	5.0	5.0	6.0	5.0	4.0	3.0	1.0	1.0	1.0	2.0	6.0	7.5
14	11.0	13.0	15.0	16.0	10.5	7.5	1.0	1.0	4.0	4.5	16.5	20.0
15	23.0	22.0	19.0	17.5	11.0	9.0	10.5	7.5	6.0	10.5	16.5	21.0
16	19.0	17.0	13.0	9.5	10.5	13.5	13.5	16.0	10.5	10.5	12.0	19.0
17	19.0	19.0	18.0	17.0	13.5	9.5	8.0	8.0	11.0	14.5	16.5	16.5
18	20.0	19.0	21.0	22.5	18.0	17.0	14.5	17.0	17.5	15.0	16.5	24.0
19	19.0	23.0	24.0	16.0	9.0	10.5	6.5	6.0	6.0	4.5	5.0	4.5
20	6.0	5.0	5.0	2.0	2.0	3.0	3.0	1.0	4.5	2.0	3.0	9.0
21	6.5	9.5	5.0	3.0	4.0	0.0	2.0	4.5	4.5	4.0	5.0	4.5
22	3.0	4.5	4.0	3.0	2.0	1.0	0.0	0.0	3.0	2.0	3.0	5.0
23	4.5	6.5	6.0	5.0	1.0	1.0	1.0	1.0	0.0	2.0	4.5	6.0
24	6.0	8.0	7.5	7.5	3.0	1.0	0.0	0.0	1.0	2.0	5.0	9.5
25	9.0	9.0	8.0	6.0	2.0	1.0	0.0	0.0	0.0	1.0	2.0	3.0
26	4.0	5.0	3.0	6.5	3.0	1.0	1.0	1.0	1.0	1.0	2.0	4.5
27	6.0	3.0	6.5	3.0	2.0	4.5	2.0	1.0	3.0	2.0	4.0	4.5
28	6.5	6.5	11.0	14.5	9.0	4.0	4.5	5.0	6.5	7.5	9.5	9.0
29	13.0	13.0	16.5	12.0	6.0	8.0	7.5	6.5	5.0	8.0	10.5	9.0
30	10.5	6.5	6.0	6.5	2.0	3.0	0.0	1.0	2.0	1.0	5.0	12.0
Sum of 29 days	329.0	340.0	325.5	293.0	199.5	163.0	150.0	148.5	157.0	175.0	255.0	331.5
Mean	11.3	11.8	11.2	10.1	6.9	5.6	5.2	5.1	5.4	6.1	8.8	11.4
Relative Velocity	1.38	1.44	1.37	1.23	0.84	0.68	0.64	0.62	0.66	0.74	1.07	1.39

June 1. 0^h—2^h. This reading includes the velocity from 22—2.

ANEMOGRAPH. DIRECTION.

JULY, 1857.

Day.	HOURS RECKONED FROM NOON.											
	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.
1	1.5	1.5	1.5	1.5	1.5	1.5	1.0	0.5	15.0	15.5	1.0	1.5
2	1.0	14.0	10.5	10.5	10.5	10.5	10.5	10.5	8.5	8.5	7.5	11.0
3	11.5	11.5	7.5	7.5	7.5	7.5	7.5	7.5	7.0	7.0	11.0	11.0
4	11.0	11.0	11.0	11.0	7.0	7.0	7.0	11.0	11.0	11.0	10.0	8.0
5	7.5	7.5	7.5	12.5	12.5	12.5	12.5	10.5	10.5	11.5	11.5	11.5
6	10.5	12.0	11.0	12.0	11.0	11.0	11.0	11.0	12.5	12.5	12.5	12.5
7	12.5	12.5	12.5	12.0	11.5	11.0	12.0	11.5	11.5	12.0	13.0	13.0
8	12.0	12.0	12.0	11.5	11.0	11.0	11.0	10.5	10.5	11.0	12.0	12.0
9	12.0	12.0	12.0	12.0	12.5	12.5	11.0	10.5	10.5	11.0	11.0	11.0
10	11.0	11.0	11.0	11.0	10.0	11.0	10.5	11.0	11.0	11.0	11.0	11.0
11	11.0	11.0	11.0	11.0	11.0	10.5	11.0	11.0	10.0	10.0	11.0	11.0
12	11.0	11.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	8.5	10.5	10.5
13	11.0	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	7.0
14	7.0	8.0	11.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	15.5	1.0
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17	11.0	11.0	11.0	11.0	11.0	10.5	10.5	11.0	10.5	10.5	10.5	11.0
18	11.0	11.0	11.0	11.0	10.5	10.5	12.0	11.0	11.0	10.0	10.0	7.5
19	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	11.0	0.0	0.0
20	0.0	0.0	0.0	0.0	11.5	10.5	10.0	10.5	11.0	11.0	11.0	11.0
21	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
22	11.0	11.0	11.0	12.0	12.5	14.0	11.0	11.5	11.0	10.5	10.5	10.5
23	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.0	11.0	10.5	10.5	10.5
24	11.0	11.0	11.0	11.0	10.5	11.0	10.5	11.0	11.0	11.0	11.0	11.0
25	11.0	11.0	11.0	10.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
26	10.0	10.0	10.0	10.0	8.0	7.5	10.0	11.0	11.0	11.0	11.0	11.0
27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
29	7.0	7.5	11.5	11.5	11.5	8.0	8.0	9.5	11.0	11.0	10.5	10.5
30	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
31	11.0	11.0	11.0	10.5	10.0	10.0	11.0	10.5	11.0	11.0	11.0	11.0
Mean of 27 days	{ 244°	247°	245°	249°	239°	234°	238°	239°	240°	241°	247°	243°
Intensity	{ .67	.73	.77	.79	.80	.75	.79	.87	.87	.87	.82	.76
0 { N	1 { NNE	2 { NE	3 { ENE	4 { E	5 { ESE	6 { SE	7 { SSE					
0 { 0°	1 { 22°.5	2 { 45°	3 { 67°.5	4 { 90°	5 { 112°.5	6 { 135°	7 { 157°.5					
8 { S	9 { SSW	10 { SW	11 { WSW	12 { W	13 { WNW	14 { NW	15 { NNW					
8 { 180°	9 { 202°.5	10 { 225°	11 { 247°.5	12 { 270°	13 { 292°.5	14 { 315°	15 { 337°.5					

ANEMOGRAPH. VELOCITY.

JULY, 1857.

HOURS RECKONED FROM NOON.

Day.	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	10.5	16.0	19.0	20.0	15.0	8.0	9.0	6.0	6.0	9.5	9.0	7.5
2	7.5	6.0	5.0	3.0	1.0	4.0	4.0	1.0	3.0	3.0	6.0	8.0
3	8.0	8.0	7.5	9.0	8.0	11.0	9.0	14.5	12.0	6.0	8.0	9.0
4	13.5	13.5	9.0	6.5	6.5	7.5	4.5	4.0	2.0	4.5	6.0	6.5
5	8.0	8.0	8.0	11.0	6.0	4.5	1.0	5.0	9.0	9.5	9.0	16.0
6	18.0	21.0	23.0	10.5	7.5	13.0	8.0	6.5	6.0	12.0	11.0	13.5
7	13.5	10.5	12.0	10.5	8.0	9.5	6.0	8.0	7.5	8.0	12.0	11.0
8	9.0	9.5	8.0	12.0	16.0	8.0	6.0	9.5	7.5	8.0	13.0	10.5
9	10.5	13.5	12.0	12.0	6.5	3.0	4.0	6.5	4.5	5.0	10.5	13.0
10	15.0	16.5	17.5	14.5	9.5	5.0	6.5	9.0	10.5	14.5	16.0	16.0
11	14.5	14.5	15.0	14.5	13.5	11.0	2.0	11.0	11.0	5.0	10.5	12.0
12	12.0	16.5	17.0	16.0	8.0	6.0	2.0	0.0	2.0	4.0	9.0	13.0
13	12.0	17.5	17.0	13.0	5.0	2.0	2.0	1.0	2.0	1.0	3.0	6.0
14	5.0	4.5	4.5	6.5	3.0	4.5	1.0	2.0	2.0	1.0	4.0	5.0
15	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17	4.5	12.0	14.5	17.0	14.5	11.0	8.0	9.0	9.5	6.5	9.5	12.0
18	11.0	14.5	13.0	13.0	13.5	7.5	6.5	4.0	4.5	4.0	4.0	7.5
19	8.0	9.0	7.5	7.5	8.0	5.0	3.0	4.5	3.0	11.0	14.5	13.0
20	11.0	16.5	20.0	22.5	18.0	13.0	6.0	10.5	12.0	10.5	13.5	10.5
21	21.0	20.0	23.0	18.0	22.0	15.0	13.5	17.5	19.0	19.0	19.0	16.5
22	17.0	16.0	16.0	14.5	9.5	4.0	3.0	4.5	7.5	10.5	14.5	14.5
23	16.0	17.5	21.0	22.0	22.0	9.5	9.0	7.5	8.0	9.0	12.0	22.5
24	25.0	22.5	22.0	17.0	11.0	5.0	13.5	8.0	14.5	13.0	16.5	18.0
25	23.0	26.0	25.5	26.0	16.5	8.0	6.5	1.0	3.0	4.0	6.0	9.5
26	18.0	22.0	21.0	19.0	12.0	3.0	5.0	5.0	5.0	7.5	11.0	13.0
27	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
28	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
29	4.5	5.0	5.0	2.0	1.0	3.0	4.0	6.5	8.0	6.0	8.0	13.0
30	(14.5)	(14.5)	(20.0)	(16.0)	.....	(35.0)	(12.0)	(14.5)	(13.5)	(12.0)	(16.0)	(19.0)
31	21.0	25.0	28.5	23.0	13.0	9.0	6.5	11.0	10.5	4.5	5.0	7.5
Sum of 26 days	337.0	381.5	391.5	360.5	274.5	190.0	149.5	173.0	189.5	196.5	260.5	304.5
Mean	12.9	14.7	15.1	13.9	10.6	7.3	5.8	6.7	7.3	7.6	10.0	11.7
Relative Velocity	1.25	1.43	1.47	1.35	1.03	0.71	0.56	0.69	0.71	0.74	0.97	1.14

[July 30. 8^h—10^h. This reading includes the velocity from 6—10.

ANEMOGRAPH. DIRECTION.

AUGUST, 1857.

Day.	HOURS RECKONED FROM NOON.											
	o h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.
1	10.5	10.5	10.5	10.0	10.0	10.0	10.5	10.5	10.5	10.5	11.0	11.0
2	11.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	9.0	9.0	9.0	8.0
3	7.0	7.0	7.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	10.5	10.5
4	11.0	11.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	14.0
5	12.0	11.0	11.0	11.0	11.0	11.0	11.0	15.5	0.5	1.0	2.0	1.0
6	11.5	14.0	15.5	15.5	15.0	13.0	12.5	12.5	12.5	12.5	14.0	14.0
7	14.0	12.0	12.0	11.5	11.0	13.0	13.0	13.0	11.5	11.5	12.0	12.0
8	11.0	10.5	11.0	11.0	11.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
9	12.0	15.0	14.5	11.0	13.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0
10	11.0	11.0	11.0	11.0	11.0	11.0	10.5	10.0	9.0	9.0	10.0	11.0
11	11.5	11.0	10.5	10.5	10.5	10.0	10.0	10.0	11.0	12.0	12.0	12.0
12	8.5	10.0	6.5	6.5	6.5	9.0	9.0	9.0	9.0	9.0	7.0	7.0
13	7.0	7.0	7.0	7.0	13.5	0.5	0.5	0.5	14.0	14.5	14.0	0.0
14	14.5	14.0	14.0	13.5	13.0	12.0	11.0	11.0	11.0	11.0	11.0	11.0
15	11.0	15.5	15.5	15.5	0.5	1.0	1.0	14.5	12.0	15.5	0.0	0.0
16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17	.....	.....	.....	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(14.0)
18	14.0	14.0	14.0	15.0	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5
19	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	0.5	0.5	1.0
20	1.0	1.0	1.0	1.0	2.0	1.5	1.5	1.0	1.5	1.5	1.0	1.5
21	1.5	1.5	1.5	1.5	1.0	1.5	1.5	2.0	2.0	2.0	2.5	2.5
22	3.0	1.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	2.5	2.5	2.5
23	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.5
24	3.5	3.5	6.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	10.0
25	10.5	10.5	9.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5
26	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	15.0
27	15.5	13.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	14.5	1.5
28	1.0	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
29	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0
30	3.0	5.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
31	3.0	3.0	6.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	12.5
Mean of 29 days	{ 278°	293°	287°	283°	277°	283°	279°	288°	277°	287°	288°	318°
Intensity	{ .31	.17	.17	.18	.21	.26	.22	.23	.23	.22	.23	.24
0 { N	1 { NNE	2 { NE	3 { ENE	4 { E	5 { ESE	6 { SE	7 { SSE					
8 { S	9 { SSW	10 { SW	11 { WSW	12 { W	13 { WNW	14 { NW	15 { NNW					
180°	202°.5	225°	247°.5	270°	292°.5	315°	337°.5					
	22°.5	45°	67°.5	90°	112°.5	135°	157°.5					

ANEMOGRAPHIC. VELOCITY.

AUGUST, 1857.

HOURS RECKONED FROM NOON.

Day.	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	11.0	14.5	15.0	10.5	9.0	5.0	10.5	4.0	1.0	2.0	8.0	16.5
2	8.0	8.0	6.5	6.0	3.0	3.0	3.0	2.0	4.5	2.0	4.5	6.0
3	6.0	11.0	11.0	7.5	3.0	3.0	3.0	2.0	2.0	1.0	5.0	13.0
4	13.5	13.5	13.0	6.5	4.5	4.5	6.0	4.5	3.0	2.0	2.0	3.0
5	6.0	9.0	9.0	9.0	4.0	2.0	3.0	4.0	4.0	5.0	6.0	9.0
6	4.0	6.0	11.0	10.5	8.0	7.5	6.0	3.0	4.5	3.0	4.0	2.0
7	6.5	6.5	10.5	8.0	8.0	6.0	6.5	6.0	5.0	9.0	6.5	9.0
8	10.5	12.0	8.0	8.0	9.5	8.0	7.5	6.0	4.0	3.0	4.5	5.0
9	6.5	6.5	5.0	5.0	5.0	3.0	4.0	0.0	1.0	2.0	2.0	2.0
10	4.0	5.0	8.0	6.0	1.0	2.0	4.0	2.0	4.0	1.0	6.0	9.5
11	8.0	13.0	11.0	6.0	3.0	4.0	1.0	0.0	4.0	3.0	2.0	3.0
12	3.0	1.0	4.0	4.0	4.0	4.0	0.0	0.0	1.0	1.0	3.0	7.5
13	11.0	11.0	11.0	6.5	6.0	5.0	4.5	2.0	4.5	4.5	4.5	9.0
14	4.5	9.0	6.5	13.5	13.0	9.0	9.0	5.0	4.5	3.0	4.0	2.0
15	3.0	4.5	3.0	3.0	4.0	2.0	2.0	3.0	6.0	12.0	14.5	16.5
16	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
17	.....	.....	.....	.....	(4.5)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(1.0)	(7.5)
18	6.5	6.5	6.0	7.5	7.5	4.0	1.0	1.0	0.0	1.0	6.0	8.0
19	8.0	10.5	9.5	7.5	3.0	2.0	0.0	2.0	14.5	8.0	9.5	16.0
20	19.0	16.0	19.0	22.0	11.0	7.5	13.0	18.0	12.0	12.0	10.5	10.5
21	12.0	13.0	12.0	13.0	9.5	9.0	5.0	4.0	2.0	4.0	8.0	9.0
22	10.5	9.0	9.5	9.0	3.0	1.0	2.0	1.0	2.0	4.0	4.5	8.0
23	12.0	11.0	13.0	12.0	6.0	3.0	1.0	1.0	1.0	1.0	2.0	4.0
24	3.0	7.5	6.0	6.0	1.0	1.0	0.0	0.0	1.0	1.0	4.5	5.0
25	9.0	9.5	8.0	8.0	9.5	3.0	3.0	3.0	2.0	1.0	4.0	3.0
26	4.0	5.0	5.0	4.5	3.0	1.0	1.0	1.0	1.0	0.0	3.0	5.0
27	7.5	5.0	5.0	4.5	5.0	3.0	1.0	2.0	1.0	1.0	2.0	1.0
28	12.0	12.0	11.0	9.5	6.5	8.0	8.0	5.0	6.5	5.0	8.0	10.5
29	13.0	15.0	14.5	11.0	10.5	8.0	5.0	5.0	3.0	3.0	6.5	9.0
30	9.5	7.5	6.0	3.0	1.0	0.0	0.0	0.0	0.0	1.0	1.0	3.0
31	5.0	3.0	4.5	6.5	2.0	1.0	1.0	2.0	1.0	0.0	3.0	6.0
Sum of 29 days	236.5	261.0	261.5	234.0	163.5	119.5	111.0	88.5	100.0	95.5	149.0	211.0
Mean	8.2	9.0	9.0	8.1	5.6	4.1	3.8	3.0	3.5	3.3	5.1	7.3
Relative Velocity	1.44	1.58	1.58	1.42	0.98	0.72	0.67	0.53	0.62	0.58	0.90	1.28

ANEMOGRAPH. DIRECTION.

SEPTEMBER, 1857.

HOURS RECKONED FROM NOON.															
Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	12.5	13.0	12.5	12.0	11.0	11.0	11.0	11.0	10.5	11.0	11.0	14.0			
2	13.0	13.0	13.5	10.5	13.5	13.5	13.0	12.0	11.0	7.5	6.0	4.0			
3	2.5	3.5	6.5	6.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
4	9.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.0	10.0	10.0	10.0			
5	10.5	11.0	10.5	10.5	9.0	9.0	9.0	9.0	8.5	8.0	7.5	10.5			
6	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0			
7	11.0	11.0	11.5	8.5	7.5	7.5	7.5	7.5	7.5	5.5	8.0	7.5			
8	7.5	7.5	7.5	10.5	10.5	10.5	10.5	10.5	9.0	8.0	7.0	7.5			
9	7.0	7.5	7.5	7.5	7.5	7.5	7.0	7.0	9.0	10.5	10.5	10.5			
10	10.5	10.0	8.5	8.5	8.5	8.5	8.5	8.5	8.5	14.0	13.0	12.5			
11	11.5	11.5	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	8.0			
12	8.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	10.5			
13	10.5	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	9.0	7.0			
14	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
15	8.0	8.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.0	7.5	10.0			
16	9.5	10.5	9.0	9.0	9.0	8.5	8.5	8.5	8.5	8.5	8.5	8.5			
17	10.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	15.0			
18	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5			
19	15.5	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.0	1.5			
20	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5			
21	1.0	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	3.0			
22	3.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.5			
23	3.0	3.0	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	7.0	7.0			
24	7.5	8.0	8.0	8.0	8.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
25	10.5	13.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0			
26	14.0	10.0	10.0	10.0	8.0	7.5	7.5	7.0	7.5	10.5	11.0	11.0			
27	11.0	11.0	11.0	10.0	11.0	11.0	10.0	10.0	10.0	10.0	10.0	10.0			
28	11.0	11.0	12.0	12.0	12.0	12.0	11.0	10.5	10.5	10.5	10.5	9.5			
29	10.0	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.5	7.0			
30	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
Meandirection	{ 229°	226°	216°	209°	206°	203°	200°	198°	196°	198°	197°	195°			
Intensity	{ .38	.35	.36	.38	.38	.38	.39	.38	.45	.36	.44	.33			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157°.5	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°.5	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

ANEMOGRAPHIC VELOCITY.

SEPTEMBER, 1857.

Day.	HOURS RECKONED FROM NOON.											
	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	8.0	9.5	7.5	8.0	8.0	9.5	9.5	9.0	14.5	17.5	15.0	4.0
2	8.0	13.0	12.0	7.5	8.0	16.0	7.5	6.0	7.5	4.5	7.5	7.5
3	10.5	7.5	5.0	5.0	4.5	2.0	1.0	1.0	1.0	2.0	4.5	4.5
4	3.0	6.0	9.0	4.5	1.0	2.0	1.0	3.0	3.0	1.0	2.0	3.0
5	9.5	4.5	6.0	5.0	2.0	4.0	3.0	2.0	7.5	6.0	6.5	4.5
6	13.0	11.0	11.0	6.5	2.0	1.0	1.0	2.0	1.0	4.5	4.5	6.0
7	3.0	9.5	6.5	4.0	6.0	4.0	1.0	3.0	4.0	4.0	7.5	5.0
8	6.0	3.0	3.0	5.0	3.0	3.0	4.0	4.0	3.0	3.0	7.5	7.5
9	8.0	5.0	8.0	8.0	4.0	5.0	4.5	9.0	9.0	5.0	4.5	11.0
10	9.5	9.5	5.0	1.0	1.0	0.0	1.0	1.0	1.0	6.0	6.0	4.5
11	10.5	9.5	12.0	11.0	8.0	7.5	6.5	5.0	1.0	2.0	6.0	5.0
12	6.0	5.0	9.0	5.0	4.0	1.0	0.0	1.0	1.0	3.0	4.0	5.0
13	5.0	9.0	7.5	3.0	1.0	1.0	2.0	2.0	2.0	2.0	3.0	5.0
14	6.5	4.5	2.0	2.0	2.0	5.0	4.0	3.0	1.0	0.0	2.0	4.0
15	6.5	7.5	7.5	6.0	6.0	2.0	3.0	4.5	3.0	6.0	4.5	6.5
16	6.5	7.5	4.5	2.0	3.0	4.5	4.0	0.0	0.0	1.0	2.0	4.0
17	6.5	9.5	8.0	5.0	3.0	4.0	3.0	8.0	6.0	5.0	4.5	7.5
18	9.0	9.0	12.0	9.5	2.0	2.0	0.0	1.0	2.0	3.0	6.5	6.5
19	10.5	10.5	9.5	7.5	6.0	4.5	3.0	4.0	3.0	1.0	8.0	9.0
20	12.0	9.0	9.5	6.5	3.0	1.0	0.0	0.0	1.0	0.0	1.0	3.0
21	6.5	9.5	10.5	8.0	5.0	4.0	6.0	6.5	8.0	6.0	7.5	13.0
22	16.0	10.5	9.5	6.0	5.0	5.0	4.0	6.5	6.5	5.0	8.0	10.5
23	13.0	10.5	10.5	9.0	5.0	3.0	1.0	1.0	0.0	2.0	4.5	12.0
24	9.0	8.0	8.0	6.0	9.0	6.5	4.5	4.5	1.0	3.0	4.0	4.0
25	6.0	9.0	5.0	4.5	1.0	1.0	2.0	1.0	2.0	6.0	6.5	5.0
26	9.9	9.0	8.0	5.0	6.0	9.5	8.0	9.5	9.0	8.0	8.0	11.0
27	14.5	12.0	12.0	9.0	9.0	3.0	5.0	1.0	4.0	4.0	4.0	5.0
28	8.0	6.5	9.5	2.0	5.0	5.0	9.5	4.5	3.0	0.0	2.0	4.5
29	6.0	6.0	5.0	3.0	1.0	1.0	1.0	2.0	2.0	3.0	3.0	6.0
30	9.0	9.5	9.0	3.0	2.0	1.0	1.0	1.0	3.0	2.0	2.0	2.0
Sum	254.5	250.0	241.5	167.5	125.5	118.0	101.0	106.0	110.0	115.5	156.5	186.0
Mean	8.5	8.3	8.1	5.6	4.2	3.9	3.4	3.5	3.7	3.8	5.2	6.2
Relative Velocity	1.57	1.54	1.50	1.04	0.78	0.73	0.63	0.65	0.69	0.71	0.96	1.15

ANEMOGRAPH. DIRECTION.

OCTOBER, 1857.

	HOURS RECKONED FROM NOON.														
Day.	o h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	7.0	9.0	10.0	9.0	10.5	10.5	10.5	10.5	10.5	10.5	11.0	11.5			
2	10.5	10.5	10.5	10.0	10.5	10.0	10.5	10.5	11.0	11.0	10.5	10.5			
3	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	11.5	15.0	15.5			
4	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5	15.5			
5	11.0	10.0	11.5	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.5	11.0			
6	11.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	8.5	4.0			
7	6.5	6.0	3.5	7.0	7.0	7.0	7.0	7.0	7.0	6.5	6.0	3.0			
8	1.5	0.5	14.0	12.5	12.5	12.5	12.5	12.5	12.5	11.5	10.5	11.0			
9	11.5	11.5	11.5	11.5	12.0	11.5	11.5	11.5	11.5	11.5	11.5	11.5			
10	12.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	10.0	10.0	10.0	10.0			
11	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0			
12	10.0	10.0	10.0	10.0	10.0	8.5	8.5	8.5	8.5	8.5	8.5	8.5			
13	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5	8.5			
14	5.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
15	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5			
16	1.5	1.5	1.5	1.5	1.5	1.5	1.5	2.0	1.5	2.5	2.5	2.5			
17	3.5	6.5	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
18	5.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
19	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
20	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5			
21	0.5	0.5	0.5	15.0	15.0	15.0	15.0	15.0	15.0	14.5	14.5	15.0			
22	15.0	14.0	15.0	15.5	15.5	15.5	1.0	1.0	1.0	0.5	0.5	0.0			
23	15.5	15.5	0.0	0.0	0.0	0.0	0.0	1.0	1.5	2.0	2.0	3.5			
24	2.5	2.0	2.5	3.0	3.0	3.0	2.5	2.5	2.5	2.5	2.5	3.0			
25	3.0	3.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
26	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	6.5			
27	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0			
28	9.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.0	8.5			
29	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	11.0	11.0	11.0	11.0			
30	11.0	11.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	11.0	11.0			
31	10.0	10.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	7.5			
Meandirection	{ 225°	253°	267°	237°	243°	237°	238°	229°	225°	223°	200°	105°			
Intensity	{ .09	.10	.09	.13	.11	.13	.11	.10	.10	.10	.06	.10			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157°.5	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°.5	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

ANEMOGRAPH. VELOCITY.

OCTOBER, 1857.

HOURS RECKONED FROM NOON.

Day.	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	3.0	4.0	5.0	5.0	10.5	11.0	11.0	8.0	6.5	7.5	13.0	9.5
2	10.5	9.5	17.0	16.0	14.5	6.5	13.0	15.0	17.0	15.0	11.0	14.5
3	17.5	18.0	11.0	6.5	9.0	9.0	7.5	7.5	4.5	3.0	10.5	8.0
4	8.0	6.0	6.5	4.5	1.0	1.0	1.0	2.0	4.5	4.5	1.0	4.0
5	16.0	16.0	15.0	4.5	5.0	2.0	4.5	6.0	4.0	9.0	10.5	14.5
6	17.0	15.0	14.5	4.0	2.0	2.0	1.0	1.0	3.0	4.5	6.0	10.5
7	12.0	9.5	12.0	16.0	16.0	16.0	17.0	13.0	11.0	13.0	12.0	16.5
8	18.0	9.5	11.0	12.0	10.5	11.0	8.0	9.5	7.5	11.0	13.5	22.5
9	19.0	17.5	22.0	17.5	14.5	15.0	14.5	16.0	14.5	10.5	11.0	18.0
10	13.5	10.5	9.5	10.5	9.5	3.0	3.0	6.0	8.0	6.0	0.0	2.0
11	1.0	4.0	1.0	1.0	3.0	5.0	4.0	0.0	2.0	3.0	3.0	4.5
12	5.0	6.5	8.0	2.0	3.0	5.0	5.0	3.0	4.5	2.0	3.0	4.5
13	4.0	2.0	1.0	2.0	0.0	1.0	2.0	2.0	2.0	1.0	2.0	4.0
14	7.5	8.0	6.5	3.0	1.0	1.0	1.0	2.0	4.5	5.0	4.0	4.5
15	5.0	5.0	1.0	0.0	1.0	0.0	1.0	1.0	1.0	2.0	2.0	4.0
16	3.0	6.0	5.0	3.0	1.0	1.0	1.0	3.0	3.0	4.0	3.0	4.5
17	7.5	6.5	4.5	3.0	6.5	7.5	4.5	2.0	2.0	1.0	1.0	3.0
18	4.0	7.5	9.5	9.5	9.5	9.5	8.0	6.0	6.5	6.5	4.5	7.5
19	13.5	9.0	8.0	6.5	4.0	0.0	1.0	3.0	4.0	4.0	3.0	5.0
20	7.5	10.5	8.0	4.5	6.5	4.0	4.0	1.0	1.0	1.0	1.0	1.0
21	1.0	4.0	1.0	11.0	8.0	6.5	7.5	6.5	6.5	9.0	8.0	9.0
22	9.5	9.0	10.5	21.0	23.0	23.0	19.0	16.0	19.0	13.5	7.5	11.0
23	17.5	12.0	9.5	4.5	2.0	4.5	6.0	9.0	8.0	13.5	8.0	6.5
24	11.0	17.0	17.0	14.5	11.0	9.5	10.5	13.0	10.5	12.0	9.0	13.0
25	16.0	16.0	9.0	4.5	2.0	2.0	1.0	2.0	1.0	1.0	2.0	3.0
26	1.0	4.0	3.0	1.0	1.0	1.0	3.0	3.0	4.0	6.0	5.0	9.0
27	10.5	16.0	10.5	8.0	9.0	8.0	3.0	2.0	1.0	2.0	4.0	4.5
28	7.5	8.0	4.0	4.0	3.0	4.5	3.0	3.0	4.0	4.5	9.5	10.5
29	8.0	8.0	8.0	7.5	6.0	3.0	4.5	9.5	10.5	9.0	12.0	13.5
30	17.5	22.0	17.5	13.0	8.0	8.0	5.0	4.0	2.0	1.0	1.0	4.0
31	4.5	9.0	6.0	8.0	8.0	6.0	4.0	5.0	4.5	6.5	6.0	8.0
Sum	296.5	305.5	272.0	228.0	209.0	186.5	178.5	180.0	182.0	191.5	187.0	254.5
Mean	9.6	9.8	8.8	7.4	6.7	6.0	5.7	5.8	5.9	6.2	6.0	8.2
Relative Velocity	} 1.33 1.36 1.22 1.03 0.93 0.83 0.79 0.81 0.82 0.86 0.83 1.14											

ANEMOGRAPH. DIRECTION.

NOVEMBER, 1857.

HOURS RECKONED FROM NOON.															
Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	7.0	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5			
2	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5	6.5			
3	7.0	7.0	7.0	7.0	1.0	1.5	1.5	1.5	1.5	1.5	2.5	3.0			
4	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0			
6	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0			
7	4.0	4.0	3.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
8	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
9	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0			
10	1.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	2.0	2.0	2.0	2.0			
11	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
12	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
13	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
14	3.0	3.0	3.0	3.0	3.0	3.0	1.5	1.5	1.5	2.0	2.0	2.0			
15	2.0	2.0	1.5	1.5	1.5	1.0	1.0	1.0	1.0	1.5	1.5	1.5			
16	1.5	1.5	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
17	2.0	2.0	2.0	2.0	2.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
18	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
19	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
20	2.5	2.5	15.0	15.0	13.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5			
21	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0			
22	10.0	10.5	11.0	10.5	10.5	10.5	10.0	10.0	10.0	10.0	13.0	13.0			
23	13.0	13.0	13.0	12.5	12.5	12.5	12.0	12.0	12.0	12.0	12.0	12.0			
24	15.0	15.0	15.0	15.0	15.0	15.0	15.0	15.0	4.5	4.5	4.5	4.5			
25	3.5	3.5	3.0	2.5	3.0	2.5	2.5	2.5	2.5	2.5	2.5	2.5			
26	3.5	4.5	6.5	9.0	10.5	12.0	13.0	14.0	6.5	10.0	11.0	12.0			
27	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
28	3.0	4.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0			
29	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.5	4.0			
30	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5			
Meandi- rection	{ 54°	53°	47°	40°	31°	30°	28°	30°	53°	48°	43°	28°			
Inten- sity.	{ .41	.42	.37	.34	.37	.36	.37	.38	.40	.34	.36	.53			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157°.5	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°.5	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

ANEMOGRAPHIC. VELOCITY.

NOVEMBER, 1857.

Day.	HOURS RECKONED FROM NOON.											
	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	16.5	12.0	6.0	5.0	6.0	4.0	4.5	1.0	1.0	1.0	2.0	5.0
2	6.5	4.0	3.0	3.0	6.5	3.0	2.0	3.0	5.0	6.0	4.5	4.0
3	4.5	2.0	3.0	9.5	13.0	7.5	16.0	16.0	16.0	16.5	13.0	8.0
4	5.0	4.0	3.0	5.0	6.5	6.5	4.0	4.0	4.5	5.0	4.0	3.0
5	4.5	5.0	4.5	2.0	1.0	3.0	4.5	4.0	3.0	3.0	1.0	3.0
6	2.0	4.0	6.0	4.0	2.0	0.0	1.0	1.0	1.0	1.0	2.0	3.0
7	6.0	4.5	4.5	8.0	4.5	4.5	3.0	2.0	4.0	2.0	1.0	1.0
8	3.0	4.0	3.0	1.0	1.0	1.0	2.0	1.0	1.0	1.0	1.0	3.0
9	5.0	4.0	4.5	5.0	9.0	5.0	8.0	8.0	6.5	4.5	6.5	6.0
10	8.0	8.0	10.5	9.5	8.0	7.5	9.0	11.0	7.5	5.0	5.0	4.5
11	8.0	12.0	6.0	2.0	2.0	2.0	3.0	4.0	6.0	6.0	4.0	4.5
12	4.5	6.0	4.5	3.0	4.5	2.0	2.0	4.0	4.5	2.0	3.0	3.0
13	5.0	3.0	2.0	1.0	2.0	2.0	0.0	1.0	1.0	0.0	2.0	4.5
14	6.0	4.0	1.0	5.0	6.0	5.0	13.0	14.5	13.0	9.5	6.0	7.5
15	11.0	9.5	9.5	6.0	6.0	5.0	9.0	11.0	12.0	14.5	10.5	9.5
16	12.0	14.5	15.0	12.0	10.5	9.5	6.5	3.0	3.0	1.0	2.0	4.5
17	9.0	5.0	6.0	6.0	4.0	6.5	4.5	4.5	2.0	6.0	3.0	4.0
18	9.0	11.0	8.0	7.5	8.0	4.5	6.0	7.5	5.0	4.5	3.0	4.5
19	4.5	4.5	4.0	4.0	3.0	2.0	1.0	1.0	2.0	2.0	3.0	6.0
20	4.0	4.5	5.0	2.0	4.5	4.0	2.0	2.0	3.0	1.0	1.0	3.0
21	9.5	9.5	8.0	6.0	7.5	7.5	6.0	4.5	1.0	4.5	4.5	8.0
22	8.0	8.0	6.0	6.0	6.0	6.5	8.0	4.5	12.0	14.5	18.0	27.5
23	19.0	21.0	15.0	12.0	9.0	8.0	5.0	2.0	2.0	3.0	2.0	1.0
24	6.0	6.5	4.0	0.0	2.0	2.0	3.0	3.0	6.0	12.0	7.5	6.0
25	10.5	11.0	8.0	8.0	10.5	9.5	8.0	2.0	2.0	1.0	2.0	6.0
26	8.0	13.5	9.5	13.5	22.5	15.0	14.5	13.5	12.0	13.0	11.0	16.0
27	23.0	23.0	16.5	8.0	6.5	1.0	3.0	7.5	5.0	6.0	6.0	5.0
28	8.0	10.5	6.5	7.5	4.0	1.0	1.0	0.0	1.0	1.0	1.0	4.5
29	16.0	12.0	12.0	14.5	8.0	9.5	8.0	10.5	9.5	16.5	17.0	19.0
30	23.0	17.0	14.5	9.5	11.0	6.5	8.0	2.0	3.0	0.0	1.0	2.0
Sum	265.0	257.5	209.0	185.5	195.0	151.0	165.5	153.0	154.5	163.0	147.5	186.5
Mean	8.8	8.6	7.0	6.2	6.5	5.0	5.5	5.1	5.2	5.4	4.9	6.2
Relative Velocity	1.42	1.39	1.13	1.00	1.05	0.81	0.89	0.82	0.84	0.87	0.79	1.00

ANEMOGRAPH. DIRECTION.

DECEMBER, 1857.

HOURS RECKONED FROM NOON.

HOURS RECKONED FROM NOON.															
Day.	0 h.	2 h.	4 h.	6 h.	8 h.	10 h.	12 h.	14 h.	16 h.	18 h.	20 h.	22 h.			
	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.	Div.			
1	4.5	4.5	4.5	5.5	5.5	11.5	11.5	11.5	10.5	8.5	8.5	8.0			
2	12.5	8.5	8.5	7.5	8.5	8.5	8.0	8.0	8.5	8.5	8.5	8.5			
3	8.5	8.5	8.5	10.5	12.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0			
4	12.0	12.0	12.0	12.0	12.0	12.0	10.0	10.0	10.0	10.0	10.0	10.0			
5	12.0	12.0	12.0	12.0	10.5	10.5	10.0	9.0	9.0	10.0	10.0	12.0			
6	9.5	11.5	12.0	10.0	10.5	9.0	11.5	11.5	10.0	12.0	11.5	12.0			
7	12.5	12.0	12.0	12.0	12.0	12.0	12.5	12.5	12.5	12.5	12.5	12.5			
8	12.5	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.5	8.5	8.5	8.5			
9	9.0	11.5	9.5	9.5	9.5	9.0	9.0	8.5	8.5	9.0	9.0	8.5			
10	11.5	11.5	10.0	10.0	10.0	10.0	10.5	10.5	10.5	10.0	10.0	10.0			
11	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0			
12	10.0	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5			
13	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	9.5	9.5			
14	12.5	12.0	12.0	9.5	8.5	9.0	9.5	11.5	12.0	12.0	11.5	12.0			
15	12.0	11.5	11.5	10.0	12.0	12.0	12.0	12.0	11.5	11.5	11.5	9.0			
16	12.5	12.5	12.0	12.0	12.0	10.5	12.0	12.5	9.5	12.0	12.0	12.0			
17	12.0	12.0	12.0	12.0	12.0	12.5	12.5	12.0	12.0	12.0	12.0	8.5			
18	8.5	8.5	8.5	8.5	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0			
19	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	9.5	8.5	8.5			
20	12.5	12.0	12.5	12.0	12.0	12.0	12.0	11.5	11.5	11.5	11.5	12.0			
21	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.5	11.5	11.5	12.0	12.0			
22	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	11.5	11.5	11.5	12.0			
23	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5			
24	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	12.0	12.5			
25	11.5	12.5	12.5	12.5	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0			
26	13.0	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5			
27	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5			
28	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.5	13.0			
29	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0	13.0			
30	13.0	13.0	12.5	12.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5			
31	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5	10.5			
Meandi- rection	261°	255°	257°	251°	255°	254°	256°	256°	252°	251°	250°	249°			
Inten- sity	.80	.86	.79	.79	.81	.86	.86	.86	.86	.85	.83	.79			
0 { N 0°	1 { NNE 22°.5	2 { NE 45°	3 { ENE 67°.5	4 { E 90°	5 { ESE 112°.5	6 { SE 135°	7 { SSE 157°.5	8 { S 180°	9 { SSW 202°.5	10 { SW 225°	11 { WSW 247°.5	12 { W 270°	13 { WNW 292°.5	14 { NW 315°	15 { NNW 337°.5

ANEMOGRAPH. VELOCITY.

DECEMBER, 1857.

Day.	HOURS RECKONED FROM NOON.											
	22—0	0—2	2—4	4—6	6—8	8—10	10—12	12—14	14—16	16—18	18—20	20—22
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1	3.0	5.0	6.0	4.5	4.0	8.0	8.0	3.0	4.0	9.0	9.5	11.0
2	8.0	11.0	16.0	11.0	13.0	15.0	13.0	11.0	23.0	21.0	22.0	21.0
3	22.0	17.0	13.0	15.0	12.0	16.0	18.0	20.0	20.0	21.0	13.5	14.5
4	17.5	13.5	5.0	4.0	4.5	4.5	5.0	6.5	4.5	3.0	3.0	2.0
5	11.0	13.0	5.0	3.0	4.0	5.0	6.5	8.0	9.0	6.5	4.5	6.5
6	9.5	7.5	7.5	5.0	6.0	6.0	12.0	12.0	7.5	7.5	7.5	9.5
7	13.5	18.0	17.5	23.0	23.0	16.0	11.0	4.0	1.0	2.0	2.0	3.0
8	0.0	4.5	6.0	8.0	6.0	5.0	4.5	4.5	6.0	6.5	16.0	8.0
9	12.0	8.0	9.0	6.0	6.0	10.5	6.5	8.0	9.0	11.0	7.5	11.0
10	4.5	5.0	4.0	4.0	3.0	3.0	4.5	3.0	4.0	5.0	1.0	1.0
11	3.0	4.5	2.0	3.0	2.0	1.0	2.0	4.0	3.0	4.0	4.0	4.0
12	4.5	6.0	4.5	3.0	4.5	4.0	3.0	2.0	2.0	2.0	4.0	4.0
13	6.0	4.5	4.5	3.0	3.0	4.5	4.5	4.0	6.5	6.0	6.5	6.5
14	8.0	13.0	11.0	6.0	10.5	6.5	8.0	8.0	8.0	10.5	9.5	9.0
15	11.0	8.0	8.0	6.5	8.0	7.5	8.0	13.0	13.0	13.0	11.0	10.5
16	9.5	17.0	22.5	8.0	8.0	5.0	16.0	16.0	8.0	8.0	12.0	19.0
17	19.0	22.5	20.0	17.5	16.5	12.0	16.0	15.0	16.5	14.5	13.0	10.5
18	14.5	12.0	15.0	17.5	16.0	13.0	10.5	7.5	9.0	8.0	9.0	8.0
19	11.0	12.0	8.0	4.0	2.0	2.0	1.0	2.0	3.0	4.0	12.0	16.0
20	14.5	21.0	23.0	21.0	19.0	21.0	17.5	13.0	10.5	13.0	18.0	22.0
21	29.5	35.0	33.5	30.5	29.5	23.5	35.0	33.5	21.0	26.0	29.5	29.5
22	29.5	32.0	32.0	23.0	26.0	26.0	33.5	25.5	25.0	22.5	22.5	22.5
23	25.0	21.0	21.0	13.5	17.5	13.0	12.0	13.5	10.5	15.0	10.5	10.5
24	14.5	16.0	17.0	12.0	16.0	12.0	19.0	16.5	16.0	16.0	16.0	16.0
25	17.5	16.5	14.5	10.5	4.5	3.0	5.0	3.0	1.0	2.0	2.0	1.0
26	5.0	6.0	6.0	3.0	1.0	4.0	1.0	1.0	0.0	4.0	4.0	2.0
27	4.0	5.0	6.5	4.0	6.0	6.0	2.0	3.0	0.0	1.0	1.0	1.0
28	6.0	8.0	4.5	4.0	6.0	7.5	6.5	6.5	4.5	4.5	6.5	8.0
29	8.0	8.0	6.5	4.0	3.0	4.5	3.0	3.0	2.0	2.0	3.0	2.0
30	3.0	4.0	6.0	4.0	6.0	6.0	6.0	4.5	5.0	5.0	6.0	5.0
31	4.0	4.0	3.0	3.0	3.0	4.0	4.0	4.0	4.0	6.0	3.0	1.0
Sum	348.0	379.5	358.0	284.5	289.5	275.0	302.5	278.5	256.5	279.5	239.5	295.5
Mean	11.2	12.2	11.6	9.2	9.3	8.9	9.8	9.0	8.3	9.0	9.3	9.6
Relative Velocity	1.14	1.24	1.18	0.94	0.95	0.91	1.00	0.92	0.85	0.92	0.95	0.98

JANUARY, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
				Shade.		Sun.	Grass.		Direc- tion.	Hor. Motion		
		Air.	Evap.	Max.	Min.	Max.	Min.					
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.678	46.3	46.2	50.5	42.5	65	39	0.10	W	207	7	Fair; dull.
2	29.383	43.5	41.8	50.5	38.5	61	36	.11	S W	210	6	Fine.
3	28.898	41.2	39.5	49.5	38.0	55	38	.07	W	424	8	Stormy.
4	29.338	36.4	36.3	41.0	32.0	42	33	.14	W N W	258	10	Stormy.
5	29.917	30.7	29.6	33.0	26.0	42	29	.....	N W	238	4	Sleet & snow; fine.
6	30.131	31.5	31.8	34.0	26.5	34	26	.....	N N W	209	10	Drizzle; dull.
7	30.185	31.4	31.8	33.5	29.0	33	32	.10	N N W	67	10	Overcast.
8	30.061	36.7	37.2	41.0	32.5	41	32	.04	N N W	70	10	Snow; damp fog.
9	29.548	47.2	47.3	50.5	40.0	50	40	.91	N N W	195	9	Dampfog; heavy rain.
10	29.013	45.1	44.5	50.0	40.5	59	41	.43	N N E	143	8	Fine; rain.
11	29.071	38.9	38.6	44.0	30.0	44	31	.02	N E	139	7	Damp; fine.
12	29.039	33.5	34.2	38.0	30.0	46	31	.01	W N W	80	7	Fair.
13	29.605	34.3	33.5	37.0	27.5	36	31	.....	W	85	3	Foggy; fine.
14	29.951	31.3	30.8	35.5	26.0	52	26	.....	S W	65	3	Fine.
15	29.870	36.1	36.5	42.5	31.0	46	31	.26	W S W	80	3	Rain; starlight.
16	30.072	37.1	36.6	44.0	31.0	55	31	.....	S W	93*	4	Fine.
17	30.134	43.2	43.3	47.0	36.0	55	37	.....	S S W	132*	9	Cloudy.
18	30.076	46.8	47.0	49.0	35.5	49	42	.02	S W	191*	9	Overcast; starlight.
19	29.911	39.7	39.1	47.5	33.0	54	31	.....	W S W	95	4	Dull; fair.
20	29.198	31.5	32.4	44.0	27.5	44	30	.31	W S W	123	4	Snow; fine.
21	29.527	35.1	35.2	37.0	28.5	54	28	.....	W	75	3	Fine.
22	29.363	38.4	37.8	44.0	35.0	43	...	.04	S W	216	8	Fair.
23	28.976	37.5	36.4	43.0	34.0	55	32	.08	S W	197*	9	Fine; snow, hail, &c.
24	29.018	37.6	36.6	42.0	35.5	42	33	.13	NNW*	172	10	Overcast.
25	29.415	34.3	34.4	38.0	32.5	38	32	.16	N*	232	10	Snow and rain.
26	29.675	32.0	32.3	36.5	27.0	38	27	.....	N N E*	208	7	Snow.
27	29.718	30.7	28.3	35.5	23.0	54	23	.....	N*	79	1	Fine.
28	29.639	29.0	28.0	35.0	19.5	45	22	.....	N*	77	7	Fine; snow.
29	29.706	25.2	26.9	31.0	19.0	46	21	.....	S W	90	3	Fine.
30	29.479	33.2	33.1	37.0	29.0	47	30	.25	S W	106	9	Snow; rain.
31	29.662	33.5	31.7	38.0	25.0	54	26	.....	S E	86	4	Fine.
Mean or Sum	29.589	36.4	36.1	41.3	31.0	48.0	31.0	3.18	N 81° W	4642	6.6	

Moon's Phases, &c.

3 ^d	0 ^h	First Quarter.	17 ^d	17 ^h	Last Quarter.
5	5	Perigee.	25	11	New.
9	21	Full.	29	22	Perigee.
17	15	Apogee.			

* Eye observations.

FEBRUARY, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun.	Grass.		Direc- tion.	Hor. Motion		
				Max.	Min.	Max.	Min.					
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.603	32.5	31.7	36.5	27.0	42	27	.....	N E	83	9	Fair.
2	29.359	32.6	31.5	36.0	27.0	37	29	.....	E	158	10	Snow; cloudy.
3	29.823	28.6	27.3	30.5	22.0	45	23	.....	N E	121	10	Snow; cloudy.
4	30.037	29.0	27.2	33.0	23.5	54	25	.....	N E	50	8	Snow; fair.
5	29.773	38.1	37.8	43.0	32.0	39	32	.....	W S W	138	10	Dull; cold thaw.
6	29.644	43.4	42.9	47.5	39.5	57	34	.....	W S W	143	8	Dull; variable.
7	29.497	42.0	40.3	45.0	39.0	46	36	.....	S	144	10	Overcast.
8	29.427	41.7	40.1	43.0	37.0	43	34	0.08	S S E	136	9	Overcast and damp.
9	29.313	43.0	40.3	47.0	36.5	55	34	.02	S	200	6	Fine; damp.
10	29.563	41.5	39.5	48.0	36.0	55	33	.....	S W	149	5	Fine; variable.
11	29.912	42.3	37.6	48.5	32.0	65	31	.01	W	224	5	Fine; cloudy.
12	30.175	37.5	34.9	46.0	31.0	65	31	.....	W S W	132	5	Hazy; fine.
13	30.093	38.4	36.2	45.5	32.0	64	31	.....	W S W	98	6	Fine; haze.
14	30.022	35.0	33.5	42.5	26.0	60	27	.....	S E	66	3	Fine; haze.
15	29.922	35.9	35.2	41.0	29.0	42	31	.....	E S E	86	10	Overcast; fog.
16	29.852	44.4	42.4	51.5	32.5	64	34	.....	S S E	65	4	Fog; fair.
17	29.786	45.5	44.6	50.5	38.5	66	36	.05	S S E	50	10	Fine; rain.
18	29.861	44.1	43.1	52.0	37.0	60	37	.10	S S W	56	10	Overcast; fog.
19	29.981	43.1	42.0	48.5	38.0	64	36	.01	E	35	10	Fair; cloudy.
20	30.024	40.8	39.2	48.5	33.0	60	31	.03	S S W	71	6	Drizzle; fair.
21	30.079	44.8	43.4	50.5	41.0	55	36	.02	S W	130	7	Dull; fine.
22	30.036	41.2	39.3	52.0	30.5	62	31	.....	S	82	1	Dull; fine.
23	30.094	40.7	40.2	51.0	31.0	72	31	.....	E N E	54	6	Foggy.
24	29.982	38.7	36.8	50.5	28.0	62	30	.....	S E	51	6	Dull; fine.
25	30.168	36.4	35.6	44.0	28.5	46	29	.....	N W	57	7	Dull; variable.
26	30.288	38.9	36.4	47.0	33.0	69	31	.....	S W	50	4	Foggy.
27	30.284	44.9	43.4	48.0	40.0	57	39	.....	S W	116	10	Variable.
28	30.358	43.4	42.0	54.0	35.5	75	34	.....	N W	58	2	Very fine.
Mean or Sum	29.891	39.6	38.0	45.8	32.7	56.5	31.9	0.32	S 10° W	2803	6.9	

Moon's Phases, &c.

1^d 8^h First Quarter. 16^d 14^h Last Quarter.
 8 12 Full. 24 0 New.
 14 12 Apogee. 26 6 Perigee.

Day h.

4 10

Lunar halo.

MARCH. 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun.	Grass		Direc- tion.	Hor. Motion		
				Max.	Min.	Max.	Min.					
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	30.338	48.4	48.4	52.5	38.5	68	42	.....	N E	111	7	Fog; overcast.
2	30.284	44.8	43.7	49.0	40.0	51	40	.....	E N E	73	10	Overcast.
3	30.129	42.2	41.7	46.0	37.0	58	35	.....	S S E	88	5	Fair.
4	30.060	39.4	39.6	51.0	29.0	54	30	.....	W	159	4	Overcast; rain.
5	29.962	44.2	43.1	48.0	39.0	66	34	.....	S W	217	6	Fair.
6	29.818	44.8	42.6	52.0	37.0	69	30	.....	W S W	147	10	Fair.
7	29.598	43.3	41.1	52.0	35.0	67	34	.....	W S W	216	10	Fair.
8	29.434	36.3	34.6	43.0	31.0	52	29	.....	W N W	211	3	Snow; variable.
9	29.854	32.8	33.1	43.0	26.0	58	27	.....	N N W	179	3	Snow storms.
10	29.759	34.9	33.2	39.0	28.0	61	27	.....	N	45	10	Fair overcast.
11	29.796	33.7	33.2	39.5	26.5	41	26	.....	S	71	10	Overcast.
12	29.749	38.8	38.1	46.0	33.0	51	31	0.01	S S W	114	7	Fall; variable.
13	29.193	40.5	40.0	51.0	35.0	45	31	.20	S	242	5	Rain & snow; clear.
14	28.970	47.1	44.6	53.0	36.0	66	35	.14	W S W	417	5	Stormy; rain.
15	29.568	39.5	38.9	47.0	35.5	63	34	.03	W S W	337	4	Stormy.
16	29.762	42.8	41.8	52.5	35.0	71	...	.....	S	110	5	Fair.
17	29.575	45.3	42.9	52.0	35.5	58	32	.....	S S E	72	7	Fair.
18	29.609	50.4	49.0	61.0	42.0	72	43	.10	S	73	10	Fair.
19	29.713	50.1	51.1	52.5	40.0	53	45	.12	E	58	10	Damp.
20	29.815	41.6	40.0	52.5	30.0	54	32	.04	E N E	207	4	Damp.
21	29.818	33.4	32.2	39.0	29.0	60	30	.04	N N E	257	2	Fair; cold wind.
22	29.590	35.0	36.7	40.0	31.5	54	32	.....	W N W	155	7	Snow.
23	29.440	35.8	35.6	42.0	31.0	55	30	.01	S	92	5	Heavy clouds; snow.
24	29.294	41.4	38.3	47.0	39.0	55	36	.04	E	190	10	Fair; rain.
25	29.364	36.9	37.4	46.5	30.0	52	31	.01	S S W	120	7	Damp.
26	29.720	43.8	42.0	48.0	39.0	67	36	.....	N N W	48	8	Fair; heavy clouds.
27	29.831	43.5	42.6	47.0	39.0	50	39	.....	N	23	8	Overcast.
28	29.701	45.9	44.2	51.0	41.0	67	41	.19	E S E	97	10	Fair.
29	29.297	46.6	45.8	51.0	43.0	50	41	.29	S S E	106	9	Rain.
30	28.974	45.4	45.0	53.0	42.5	65	41	.17	S W	213	10	Showery.
31	29.187	45.4	44.6	51.5	39.0	59	30	.15	W S W	142	10	Overcast; hail.
Mean or Sum	29.651	41.8	40.9	48.4	35.2	58.5	34.1	1.54	S44°W	4600	7.1	

Moon's Phases, &c.

2^d 17^h First Quarter.18^d 9^h Last Quarter.

10 4 Full.

25 10 New.

14 5 Apogee.

26 12 Perigee

Day. h.
11 12

Lunar halo. Apricot in blossom.

Day. h.
31 5

A hail storm.

APRIL, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
				Shade.		Sun.	Grass.		Direc- tion.	Hor. Motion		
		Air.	Evap.	Max.	Min.	Max.	Min.					
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.036	47.8	45.3	55.0	44.0	65	43	0.09	E S E	145	10	Fair; rain.
2	29.178	49.2	47.3	54.5	45.0	60	43	.08	S	120	9	Cloudy; rain.
3	29.513	46.9	45.2	53.5	41.5	65	41	.03	S S W	84	10	Mild; showery.
4	29.505	51.5	50.6	56.0	48.5	52	49	.76	S S E	83	10	Cloudy; rain.
5	29.582	54.8	52.4	64.0	51.5	75	50	.12	S E	42	10	Rain; overcast.
6	29.604	50.6	48.8	60.0	44.0	66	43	.....	S W	99	10	Variable.
7	29.747	50.9	48.4	60.0	45.0	78	44	.....	W S W	125	5	Variable; fall.
8	29.394	48.1	46.3	57.0	42.5	66	42	.....	S S W	106	8	Variable.
9	29.308	47.7	44.4	59.5	35.0	73	35	.....	S S W	56	6	Variable.
10	29.228	50.9	47.0	61.0	40.0	87	42	.07	W	71	8	Fair; rain.
11	29.317	41.7	38.1	49.0	34.0	53	33	.....	W	176	7	Rain; cloudy.
12	28.915	38.8	36.9	49.5	34.5	70	32	.33	W S W	230	10	Variable; rain.
13	29.031	37.1	35.5	43.0	33.5	48	34	.15	W S W	174	10	Rain and snow.
14	29.292	39.2	36.7	48.5	31.5	59	31	.....	W	82	3	Fair.
15	29.495	41.5	39.4	52.5	33.0	76	32	.....	S S W	78	6	Fair.
16	29.676	41.9	40.6	52.5	34.5	67	34	.....	S S E	89	6	Fair.
17	29.717	50.9	47.0	57.5	44.0	63	41	.....	S S E	146	6	Fall; fair.
18	29.669	56.6	50.7	66.0	46.5	80	43	.....	S S E	113	4	Fair.
19	29.948	51.7	47.9	63.5	41.5	84	39	.....	S W	110	2	Fair.
20	30.085	49.5	45.7	61.0	39.5	84	40	.07	W S W	133	5	Fine; rain & hail.
21	30.020	50.4	45.9	58.5	45.0	71	44	.12	W	143	5	Fair.
22	29.792	46.1	38.9	53.5	37.0	56	...	.17	N	105	7	Showery.
23	29.832	38.3	35.6	45.5	28.5	54	30	.....	N E	97	8	Variable.
24	29.629	41.5	38.6	48.0	36.0	64	35	.....	E S E	68	10	Fair; fall.
25	29.546	40.2	37.1	48.0	35.0	47	33	.....	E N E	178	7	Overcast.
26	29.849	38.6	35.7	43.0	34.0	57	34	.02	N N E	187	10	Very cold wind.
27	29.907	39.2	37.1	41.0	34.0	44	36	.01	N N E	108	10	Hail and rain.
28	29.862	38.5	35.4	47.0	27.5	63	29	.....	N N E	55	7	Heavy clouds.
29	29.891	42.6	39.3	49.0	35.0	69	34	.....	N N W	92	9	Fine.
30	29.918	44.0	41.3	48.0	35.0	61	39	.....	N N E	78	10	Overcast.
Mean or Sum	29.583	45.5	42.8	53.5	38.5	65.2	38.1	2.02	S25°W	3373	7.6	

Moon's Phases, &c.

1^d 2^h First Quarter.
 8 21 Full.
 10 14 Apogee.
 17 0 Last Quarter.

23^d 19^h New.
 ... 22 Perigee.
 30 12 First Quarter.

Day	h.		Day	h.	
3	...	Buds of laburnum, hawthorn, lilac, &c. bursting into leaf.	13	10	Hail fell.
9	10	Lunar halo.	27	...	Pear in blossom.
12	8	Vivid lightning till 9 ^h .			

MAY, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun.	Grass.		Direc- tion.	Hor. Motion		
				Max.	Min	Max.	Min.					
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.912	44.3	42.0	51.0	36.5	76	36	.....	W N W	53	10	Variable; drizzle.
2	29.948	43.4	40.1	53.0	31.5	75	32	.....	N N E	88	6	Fair.
3	29.979	41.9	39.1	50.0	32.5	75	32	.....	N N E	191	7	Fair.
4	30.023	42.0	38.3	51.5	30.5	74	30	.....	N E	132	5	Fair.
5	30.072	41.4	38.7	49.0	30.5	66	32	.....	N E	93	6	Fair.
6	30.036	42.4	39.7	51.5	30.5	65	32	.....	N E	127	6	Fair.
7	29.922	44.2	41.4	52.0	35.0	63	35	.....	N E	159	8	Dull.
8	29.741	46.2	42.2	58.0	35.0	76	36	.....	N E	142	2	Fair.
9	29.570	51.2	46.6	64.0	38.0	87	38	.....	N E	140	7	Dull; fair.
10	29.487	49.7	48.4	55.0	46.0	68	45	0.40	N N E	139	10	Dull; drizzle.
11	29.620	53.4	51.7	58.0	45.5	66	46	0.04	N E	72	10	Showery; lightning
12	29.832	56.3	54.3	64.0	48.0	64	51	.....	S	83	9	Dull.
13	29.804	60.6	55.7	70.5	52.0	87	50	.....	E N E	76	6	Fair.
14	29.802	59.9	55.8	73.0	48.0	90	48	.....	E	65	5	Fair.
15	29.923	61.1	57.8	66.0	53.0	89	51	.24	N N W	45	10	Fair; thunder.
16	29.921	57.6	53.2	71.5	46.0	88	46	.....	W S W	111	3	Fine.
17	29.864	56.9	51.8	70.0	45.5	94	45	.....	S W	112	2	Fine.
18	29.775	57.6	53.2	69.0	50.0	93	48	.....	W S W	183	7	Fine.
19	29.706	57.8	53.8	67.5	51.5	89	52	.....	S W	131	7	Dull; variable.
20	29.516	56.7	52.9	68.0	51.5	80	47	.....	S W	92	8	Fair; lowering.
21	29.572	51.2	49.6	58.0	45.5	60	44	.04	S W	69	10	Dull; drizzle.
22	29.586	51.8	49.1	58.5	48.0	64	47	.14	E N E	66	10	Overcast.
23	29.288	56.6	54.0	65.5	50.0	69	51	.02	S E	103	10	Drizzle.
24	29.340	56.0	52.0	64.5	43.5	83	45	.....	S S W	77	3	Dull; fair.
25	29.223	57.5	53.5	69.5	46.0	84	46	0.31	S E	102	8	Fair; rain.
26	29.468	56.3	52.6	63.0	47.0	75	46	.....	S S E	91	6	Variable.
27	29.593	55.6	51.4	67.0	40.5	76	42	.....	S S E	56	6	Fair.
28	29.674	56.2	53.0	65.5	49.5	86	49	.....	N N E	149	9	Fair; dull.
29	29.803	55.4	51.3	59.0	49.0	65	49	.....	N N E	91	9	Overcast.
30	29.868	55.4	50.3	64.0	46.0	88	46	.....	N N E	106	2	Fair.
31	29.853	54.0	48.6	67.5	39.0	89	41	.....	E N E	90	4	Fair.
Mean or Sum	29.732	52.5	49.1	61.8	43.3	77.5	43.2	1.19	N 54° E	3234	7.0	

Moon's Phases, &c.

7^d 16^h Apogee.

8 14 Full.

16 11 Last Quarter.

22^d 8^h Perigee.

23 2 New.

30 1 First Quarter.

Day	h.		Day	h.	
9	...	Apple in blossom.	15	10	Thunder storm, which lasted till mid-
11	8	Lightning (thunder said to have been	18	...	night.
		heard.)			Lilac in blossom.
14	10	Lightning after this time.			

JUNE, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-Registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun.	Grass.		Direc- tion.	Hor. Motion		
				Max.	Min.	Max.	Min.					
1	Inches. 29.736	Deg. 53.8	Deg. 48.9	Deg. 65.0	Deg. 39.5	Deg. 80	Deg. 42	.....	E	Miles. 69	6	Fair.
2	29.680	55.8	53.0	64.0	49.5	74	48	0.08	S	66	6	Showery.
3	29.834	59.8	56.4	69.0	53.5	86	52	.14	S W	117	9	Fair; showery.
4	29.890	62.9	57.0	73.0	53.0	85	51	.....	S S W	94	5	Fair.
5	29.820	67.9	60.5	79.0	59.0	91	58	.....	W S W	72	7	Fair; thunder.
6	29.755	66.2	61.8	74.5	57.5	95	58	.60	N N E	52	10	Fair; showery.
7	29.495	59.2	56.0	68.5	53.0	77	50	.02	S W	172	6	Dull; variable.
8	29.556	56.7	52.7	64.0	51.5	80	51	.....	S W	236	6	Fair.
9	29.436	54.2	51.3	63.0	46.5	76	46	.15	S W	146	10	Showery.
10	29.488	55.9	51.6	63.5	46.5	85	46	.....	W S W	160	7	Fair; showery.
11	29.860	52.7	47.3	63.5	42.0	79	42	.....	N N W	85	5	Fair.
12	30.064	53.2	48.5	63.0	40.0	86	42	.....	E N E	42	4	Fair.
13	30.003	56.3	48.9	66.5	38.5	87	40	.....	E S E	47	3	Fair.
14	29.791	55.9	49.6	66.5	43.5	88	43	.....	E N E	120	2	Fine.
15	29.743	54.7	48.8	65.5	42.0	86	42	.....	N E	174	1	Fine.
16	29.825	54.3	50.4	63.0	50.5	85	49	.10	N N E	164	10	Fair; thunder.
17	29.964	57.0	51.9	68.0	44.5	86	45	.....	N N E	170	6	Fair.
18	29.951	56.3	53.0	64.5	49.0	85	48	.....	N N E	222	4	Fair; damp.
19	29.774	64.5	62.5	78.0	60.0	95	57	.19	E N E	134	7	Fair; thunder.
20	29.738	69.0	64.0	81.0	60.0	97	60	.80	S S E	45	7	Cloudy; thunder.
21	29.848	62.7	60.0	74.0	55.5	94	56	.04	N W	53	9	Variable; thunder.
22	29.980	66.3	62.3	76.0	55.5	95	54	.....	N N W	31	7	Fair.
23	30.035	69.6	63.4	80.5	57.0	103	56	.....	E N E	39	2	Fair; oppressive.
24	30.126	67.0	59.2	80.0	52.0	107	52	.....	E	51	0	Very fine.
25	30.168	68.3	59.4	82.0	52.0	106	52	.....	E N E	41	0	Very fine.
26	30.012	68.6	61.5	81.0	54.0	107	53	.....	E N E	33	0	Fine.
27	29.797	70.9	62.4	84.0	55.0	106	54	.....	S S W	42	2	Fine.
28	29.538	69.0	62.1	85.0	60.0	104	59	.....	S W	93	8	Fair; fall.
29	29.380	62.7	57.8	73.5	57.5	85	56	.06	S S W	115	8	Fair; showery.
30	29.405	59.4	57.3	67.5	56.0	76	56	0.86	W N W	56	10	Showery; thunder.
Mean or Sum	29.790	61.0	56.0	71.5	50.8	89.9	50.3	3.04	N 59° E	2941	5.6	

Moon's Phases, &c.

4^d 0^h Apogee.19^d 14^h Perigee.

7 5 Full.

21 10 New.

14 19 Last Quarter.

28 16 First Quarter.

Day	h		Day	h	
5	11	Distant thunder, and lightning till 12 ^h .	30	12	Thunder storm with rain and hail, which
16	3	Rain; distant thunder.			lasted 30 ^m . During this time there
19	7	Thunder and lightning; and at 13 ^h .			were four claps of thunder, accom-
20	8	Calm; heat oppressive; thunder storms			panied by lightning; 0.52 inch of rain
		at 8 ^h and at 12 ^h .			fell. The hail stones were cone-shaped;
21	5	Thunder and rain.			the rain was remarked as being very
					white.

JULY, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun. Max.	Grass. Min.		Direc- tion.	Hor. Motion		
				Max.	Min.							
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.742	55.1	51.9	61.0	49.0	68	50	.....	N N E	136	10	Showery; cloudy.
2	29.818	60.8	55.0	67.5	56.0	85	55	.....	W S W	52	9	Fair.
3	29.682	59.2	56.4	66.0	56.0	71	55	0.34	S S W	110	10	Overcast; rain.
4	29.604	60.6	58.0	66.5	54.0	65	52	.36	S W	85	10	Rain; fair.
5	29.458	59.5	57.1	67.5	52.0	77	53	.45	W S W	95	9	Fair; rain.
6	29.589	55.1	51.7	62.0	49.5	80	49	.17	W	150	6	Variable; thunder.
7	29.754	55.0	50.3	62.0	45.5	73	43	.....	W	116	7	Fair; cloudy.
8	29.736	56.6	51.6	64.0	48.0	69	45	.....	W S W	117	7	Fair; starlight.
9	29.714	60.3	55.3	68.0	50.5	81	50	.....	W	101	8	Fair.
10	29.776	64.5	59.3	71.0	58.0	81	57	.....	W S W	150	9	Fair; fall.
11	29.973	63.6	59.5	70.5	56.0	86	55	.....	W S W	134	4	Fair; cloudy.
12	30.098	65.9	61.7	76.0	55.0	97	54	.....	S W	105	6	Fine; cloudy night.
13	30.123	65.8	60.7	75.0	56.0	95	56	.....	W S W	81	6	Fine.
14	29.986	67.8	60.7	80.0	54.0	98	54	.....	W S W	43	2	Fine.
15	29.724	65.5	59.4	78.0	54.0	102	54	.....	W	115	6	Fair.
16	29.747	59.9	55.6	70.5	49.0	91	51	.03	W S W	115	7	Fair; fall.
17	29.933	64.3	58.8	73.5	55.5	95	54	.....	W S W	128	9	Fair.
18	29.990	65.5	61.6	75.0	56.0	81	56	.....	W S W	103	6	Fair.
19	29.817	69.6	62.7	80.0	59.5	92	58	.....	S S W	94	5	Fair.
20	29.833	65.6	56.9	76.0	57.0	98	51	.....	W N W	164	5	Fair.
21	29.797	64.3	60.8	69.5	61.0	80	59	.....	W S W	224	10	Overcast; fall.
22	29.781	67.0	62.5	74.0	61.5	86	61	.....	W S W	131	9	Variable.
23	29.735	65.2	61.5	75.0	58.5	94	57	.....	W S W	176	6	Thin clouds.
24	29.588	67.6	61.6	80.0	61.0	97	59	0.03	W S W	186	8	Fair.
25	29.712	61.2	55.6	71.0	49.5	91	49	.....	S W	155	4	Fall; fair.
26	29.744	63.0	57.2	70.0	57.0	88	56	.....	S W	142	5	Dull; fair.
27	29.671	64.8	61.7	76.0	58.0	94	59	1.79	S W	105	10	Fall; rain; lightning
28	29.885	60.6	55.1	71.0	48.0	87	51	.....	S W	90	3	Rain; fair.
29	29.860	63.9	58.4	74.5	53.0	95	53	.....	S W	66	6	Fair.
30	29.821	65.8	61.9	71.5	61.0	86	60	.....	W S W	187	8	Fair.
31	29.860	66.5	61.4	74.0	60.0	94	59	.....	W S W	165	3	Fair.
Mean or Sum	29.792	62.9	58.1	71.5	54.6	86.4	54.0	3.17	S 62° W	3821	6.8	

Moon's Phases, &c.

1^d 14^h Apogee.17^d 7^h Perigee.28^d 9^h First Quarter.

6 19 Fall.

20 18 New.

29 7 Apogee.

14 1 Last Quarter.

Day h.
5 1

Rain all day, except from 5^h to 6^h. Vivid
lightning after 9^h, with distant thunder.
First indications of the potato blight.
Thunder storm.
Summer lightning.

Day h.
27 5

Distant thunder and rain; lightning seen
several times during the evening. Heavy
rain at intervals throughout the day.
Harvest begun.

6 4¹/₂
... 9¹/₂

29 ...

AUGUST, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun. Max.	Grass. Min.		Direc- tion.	Hor. Motion		
				Max.	Min.							
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.875	66.5	62.6	75.5	59.5	87	58	.....	W S W	107	8	Fair; overcast.
2	29.867	66.3	62.3	78.0	57.0	91	56	.....	S W	56	5	Fair; starlight.
3	29.700	70.0	63.7	82.0	60.0	95	59	.....	S	68	4	Fair.
4	29.727	66.1	62.2	76.0	58.0	98	59	.....	W	76	9	Cloudy; showers.
5	29.596	63.9	59.4	73.5	58.0	93	58	0.57	N W	70	9	Fair; rain.
6	29.511	56.6	54.6	67.5	52.5	85	53	.13	N W	70	10	Rain; showers.
7	29.469	55.2	54.4	59.0	53.0	68	53	.74	W	88	10	Rain.
8	29.532	57.2	56.1	61.5	54.0	68	54	.24	W	86	10	Showery.
9	29.766	57.7	55.9	66.0	49.0	85	50	.22	W N W	42	5	Showery; thunder.
10	29.913	64.8	61.5	72.0	60.0	95	57	.03	W S W	52	8	Fine; damp.
11	29.939	64.2	61.9	74.0	56.5	85	56	.....	W S W	58	4	Fair; starlight.
12	29.827	66.8	63.1	76.0	58.0	97	58	.02	S	32	5	Fine.
13	29.569	66.0	62.4	77.0	58.5	87	60	.62	W N W	80	10	Rain; thunder.
14	29.537	58.6	56.3	68.5	50.5	81	50	.95	W	83	10	Overcast; thunder.
15	29.647	62.9	56.2	72.0	56.0	85	56	.16	N N W	74	7	Cloudy; rain.
16	29.757	65.9	59.2	77.0	56.5	100	56	.....	N	155	3	Fine.
17	29.861	59.9	56.8	70.0	49.0	95	50	.....	N	80	2	Fine.
18	29.933	61.5	58.1	68.0	56.5	83	56	.....	N N W	55	10	Fair; overcast.
19	29.956	67.5	62.9	73.5	61.0	97	63	.....	N N E	90	9	Fair; overcast.
20	29.953	62.5	58.0	73.0	56.0	94	56	.....	N N E	170	8	Fair; overcast.
21	29.851	63.5	59.3	70.0	60.0	96	59	.....	N E	100	7	Fair; overcast.
22	29.695	68.3	63.7	77.5	58.0	95	58	.....	E N E	64	3	Fair; starlight.
23	29.553	71.9	65.1	82.5	61.5	103	60	.....	E N E	66	5	Fine; oppressive.
24	29.654	70.4	65.0	83.0	60.0	99	59	.....	S E	36	5	Fair; starlight.
25	29.969	63.9	59.3	76.0	52.0	99	54	.....	S W	63	2	Fine.
26	30.108	62.8	58.1	75.0	52.0	103	52	.....	W S W	34	0	Fine.
27	30.098	60.0	55.0	73.0	48.0	97	48	.....	N N W	38	1	Fair.
28	30.054	60.0	56.0	68.0	53.0	94	52	.....	N N E	102	10	Fair; drizzle.
29	29.905	61.1	58.3	68.5	56.0	81	54	.....	N E	104	6	Dull; starlight.
30	29.786	63.0	57.8	76.0	51.0	98	51	.....	E	32	0	Fine.
31	29.743	65.5	60.8	76.5	58.5	103	58	.. ..	S	35	7	Fair.
Mean or Sum	29.786	63.6	59.5	73.1	55.8	91.5	55.6	3.68	SS7°W	2266	6.2	

Moon's Phases, &c.

5^d 6^h Full.

12 3 Perigee.

... 6 Last Quarter.

19^d 4^h New.

26 2 Apogee.

27 3 First Quarter.

Day h.
9 4 Thunder storm.
12 ... Many shooting stars.

Day h.
13 6 Thunder storm, lasted till 10 $\frac{1}{2}$.
14 4 Thunder storm, lasted till 7 $\frac{1}{2}$.

SEPTEMBER, 1857.

Day.	Mean Barom. red. to 32°.	Mean Temper- ature.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun. Max.	Grass. Min.		Direc- tion.	Hor. Motion		
				Max.	Min.							
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.583	61.7	56.1	70.5	52.0	86	52	0.04	W	120	10	Fair; variable.
2	29.369	52.5	49.7	59.5	47.5	73	48	1.10	W S W	105	7	Showery.
3	29.323	53.4	52.3	58.0	49.5	58	50	0.03	S E	49	10	Showery.
4	29.429	55.0	52.2	63.0	48.0	74	48	.....	S W	39	6	Fair.
5	29.612	58.6	56.0	66.0	53.0	82	51	.....	S S W	60	9	Fair.
6	29.678	61.2	57.4	69.5	54.0	84	52	.09	W S W	64	8	Fair.
7	29.532	60.9	58.4	68.5	57.0	93	56	.03	S	58	8	Rain; fair.
8	29.295	56.7	55.6	64.0	51.0	64	50	.73	S S W	52	10	Rain.
9	29.387	61.0	58.9	67.0	57.0	78	57	.42	S	81	9	Fair; rain.
10	29.463	60.0	56.0	68.0	55.5	91	55	.03	S W	46	8	Fair; overcast.
11	29.418	57.7	55.6	63.0	52.5	74	51	.05	W S W	84	9	Drizzle.
12	29.558	59.5	57.5	67.5	54.0	90	53	.06	S	42	9	Fair; overcast.
13	29.773	60.4	58.1	67.0	56.0	85	55	.22	W S W	43	5	Fair; starlight.
14	29.914	62.2	61.1	67.0	58.0	71	56	.35	S S E	36	7	Showery.
15	30.021	64.8	62.2	70.0	61.0	78	61	.....	S	63	9	Overcast.
16	30.031	62.5	59.6	72.5	50.0	89	52	.....	S S W	39	2	Fair.
17	30.021	64.3	60.5	76.0	54.0	98	54	.....	W S W	70	2	Fine.
18	30.121	56.7	53.4	69.5	48.5	88	49	.....	N	63	6	Fine; starlight.
19	30.222	54.1	51.3	60.5	50.0	64	50	.....	N N E	77	10	Overcast.
20	30.143	54.2	51.2	65.5	45.0	87	48	.....	N E	46	1	Dull; fair.
21	30.054	58.2	54.9	64.0	54.0	85	52	.....	N E	90	8	Fair.
22	29.968	57.6	54.3	62.0	54.5	77	54	.....	N E	93	9	Overcast.
23	29.754	57.0	54.2	65.5	49.0	82	48	.....	E	72	3	Fair.
24	29.615	61.6	60.2	68.5	53.5	81	56	.20	S S E	68	8	Fair; showery.
25	29.698	55.7	53.8	67.5	45.0	87	46	.35	N W	49	9	Fair; rain.
26	29.672	59.4	56.2	64.0	55.5	87	52	.02	S W	100	9	Fair.
27	29.624	59.6	57.7	67.5	56.0	77	56	.16	S W	83	9	Dull; rain.
28	29.778	53.1	50.9	65.0	43.0	77	46	.....	W S W	60	4	Fair.
29	29.877	55.0	52.9	63.5	47.0	85	47	.....	S	39	4	Fair.
30	29.802	55.7	53.9	66.0	49.5	79	48	0.01	S S E	45	9	Fog; fair.
Mean or Sum	29.724	58.3	55.7	66.2	52.2	80.8	51.8	3.89	S 26° W	1936	7.2	

Moon's Phases, &c.

3 ^d 17 ^h Full.	17 ^d 18 ^h New.
7 1 Perigee.	22 21 Apogee.
10 11 Last Quarter.	25 21 First Quarter.

OCTOBER, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun.	Grass.		Direc- tion.	Hor. Motion		
				Max.	Min.	Max.	Min.					
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.923	57.7	55.7	66.0	50.5	87	50	.....	S W	95	3	Fog; fine.
2	29.868	59.4	55.9	65.0	54.5	86	52	.....	W S W	159	8	Fair.
3	29.642	56.9	55.0	63.0	44.5	76	...	0.28	W S W	112	10	Overcast.
4	29.485	45.3	44.7	50.0	36.5	58	41	.51	N	44	4	Rain; cloudy.
5	29.477	47.8	45.4	56.0	41.0	80	40	.....	S W	107	4	Fair.
6	29.442	50.0	47.3	57.0	43.0	80	40	.....	S W	81	5	Fog; fair.
7	28.821	53.7	51.6	58.0	49.0	60	48	.39	S E	164	10	Overcast.
8	28.902	49.4	48.2	54.5	44.5	59	45	.51	W N W	144	7	Rain; starlight.
9	29.397	50.4	47.9	54.5	44.0	59	44	.21	W	190	7	Rain; cloudy.
10	29.636	53.6	51.6	59.0	48.5	72	49	.31	W S W	82	10	Fair; rain.
11	29.842	59.3	57.8	62.0	55.5	61	55	.01	S W	32	10	Foggy.
12	29.988	59.8	58.1	64.0	56.5	70	56	.....	S S W	52	10	Fog; overcast.
13	30.011	55.7	54.1	63.5	45.5	91	47	.....	S S W	23	7	Overcast.
14	29.908	51.3	49.6	61.5	44.5	68	44	.....	N E	48	4	Fair.
15	29.843	54.1	52.7	56.0	49.5	78	52	.....	N E	23	10	Overcast; foggy.
16	29.752	54.9	53.8	60.0	49.5	87	50	.....	N E	38	4	Foggy.
17	29.583	55.8	53.9	61.0	52.0	70	52	.27	S S E	49	10	Variable.
18	29.313	54.2	53.0	58.0	50.0	52	51	.34	E N E	89	10	Rain.
19	29.581	51.4	50.3	60.0	43.0	77	47	.01	E N E	61	7	Fog; fair.
20	29.623	53.8	52.4	60.0	43.0	77	48	.....	N N E	50	9	Foggy; fair.
21	29.504	48.4	46.0	56.0	43.5	71	43	.04	N N W	78	10	Foggy.
22	29.581	45.6	44.8	48.0	43.0	49	44	1.54	N	182	10	Dull; rain.
23	29.890	49.8	48.3	55.0	45.0	55	44	.02	N N E	101	10	Rain; cloudy.
24	29.850	55.8	53.1	60.0	48.0	76	50	.....	E N E	148	8	Fair.
25	29.681	51.4	50.3	59.0	44.0	72	46	.01	E N E	59	10	Dull; fog.
26	29.560	52.7	51.4	56.0	47.0	72	46	.02	E N E	41	10	Variable.
27	29.660	52.6	51.2	59.0	45.5	66	46	.....	S S E	79	4	Overcast; fall.
28	29.792	49.8	48.3	59.5	43.5	78	43	.....	S W	66	2	Thin fog.
29	29.631	50.9	48.7	56.0	45.0	68	45	.09	W S W	100	9	Variable.
30	29.808	44.0	41.9	53.5	34.0	70	37	.....	W S W	103	4	Fall; fair.
31	29.842	51.9	50.0	55.0	46.0	72	46	.01	S	76	9	Fair.
Mean or Sum	29.640	52.5	50.7	58.3	46.1	70.9	45.6	4.57	S 46° W	2676	7.6	

Moon's Phases, &c.

3^d 3^h Full.17^d 10^h New.

4 20 Perigee.

20 13 Apogee.

9 18 Last Quarter.

25 14 First Quarter.

Day	h.	
5	11	Lunar halo.

Day	h.	
29	8	Lunar halo.

NOVEMBER, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
		Air.	Evap.	Shade.		Sun. Max	Grass. Min.		Direc- tion.	Hor. Motion		
				Max.	Min.							
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.547	52.4	50.4	57.5	47.5	69	46	0.04	SSE	64	5	Fair.
2	29.480	58.0	56.5	60.0	49.0	59	53	.01	SSE	51	10	Foggy; fall.
3	29.609	52.1	51.2	61.0	48.0	63	49	.82	E	125	10	Dull; rain.
4	29.656	52.3	51.9	54.5	50.0	63	50	.27	ENE	55	10	Dull; rain.
5	29.695	56.4	55.5	60.5	53.0	65	52	.....	ENE	39	9	Damp.
6	29.911	49.8	48.9	58.0	42.0	63	45	.....	E	27	10	Foggy; starlight.
7	30.086	45.0	44.6	52.5	40.0	70	46	.02	NE	45	7	Fine; foggy.
8	30.156	45.2	44.7	49.0	39.0	61	44	.01	NNE	22	7	Foggy; fair.
9	30.203	49.0	48.4	50.5	46.5	51	47	.....	NNE	72	10	Damp; fog.
10	30.399	47.8	46.0	51.0	41.5	52	41	.....	NNE	94	7	Overcast.
11	30.537	39.8	39.1	52.0	33.0	79	37	.02	ENE	59	9	Fair; foggy.
12	30.467	36.6	36.8	41.5	30.0	68	34	.01	ENE	43	10	Damp fog.
13	30.235	41.4	41.2	45.0	34.5	44	37	.....	ENE	24	10	Overcast; foggy.
14	30.101	48.0	46.8	50.5	41.5	51	40	.02	NE	91	7	Cloudy; fall.
15	30.082	44.8	43.1	49.0	42.0	71	50	.....	NNE	113	6	Fine; overcast.
16	29.986	45.4	44.2	50.0	37.5	50	39	.01	NE	94	9	Overcast.
17	29.988	46.7	45.0	50.0	40.5	58	40	.....	NE	61	7	Variable; starlight.
18	30.053	44.9	42.9	55.0	39.5	74	39	.....	ENE	79	3	Very fine.
19	30.084	43.2	42.9	46.0	40.5	43	41	.....	ENE	37	10	Overcast.
20	30.133	46.1	45.8	50.0	41.5	53	43	.01	WNW	36	10	Foggy.
21	30.062	48.3	47.3	52.0	42.0	54	41	.....	SW	76	9	Overcast.
22	29.624	49.4	47.9	55.0	45.0	63	43	.02	WSW	125	10	Fair.
23	29.175	45.8	44.6	50.0	41.5	63	42	.02	W	99	7	Variable.
24	29.248	39.2	38.0	47.0	32.5	63	35	.24	NNE	58	4	Fair.
25	29.405	37.2	36.4	40.0	33.5	41	35	.02	ENE	78	10	Snow; damp.
26	29.585	41.1	39.8	44.0	35.0	43	37	.10	SW	162	7	Cold damp.
27	29.963	38.2	37.0	45.5	33.5	62	32	.....	ENE	111	3	Fine.
28	29.982	36.8	35.8	45.0	31.0	62	31	.01	ENE	46	6	Fair; foggy.
29	29.837	41.7	40.5	44.5	36.0	58	35	.....	ENE	152	8	Dull; fair.
30	29.640	41.5	40.4	45.0	38.0	58	38	0.02	E	98	10	Overcast.
Mean or Sum	29.898	45.5	44.5	50.4	40.2	59.1	41.1	1.67	N59°E	2236	8.0	

Moon's Phases, &c.

1 ^d 13 ^h Full.	16 ^d 19 ^h Apogee.
2 5 Perigee.	24 6 First Quarter.
8 5 Last Quarter.	30 17 Perigee.
16 4 New.	... 22 Full.

DECEMBER, 1857.

Day.	Mean Barom. red. to 32°.	Mean Tempera- ture.		Self-registering Ther- mometers.				Rain.	Wind.		Amount of Cloud.	Weather.
				Shade.		Sun.	Grass.					
		Air.	Evap.	Max.	Min.	Max.	Min.		Direc- tion.	Hor. Motion		
	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.		Miles.		
1	29.745	48.3	47.7	52.0	43.0	57	41	0.08	S	75	9	Overcast; foggy.
2	29.697	51.7	49.8	56.0	49.0	57	45	.....	S S W	185	5	Dull; fair.
3	29.590	51.5	49.4	55.0	44.0	55	44	.28	W S W	202	3	Cloudy; stormy.
4	29.892	42.3	41.1	50.0	37.0	69	38	.....	W S W	73	0	Very fine.
5	30.072	45.1	44.0	50.5	39.5	67	38	.....	W S W	82	4	Fine.
6	30.185	52.0	50.8	53.5	47.5	67	45	.....	W S W	98	7	Fair.
7	30.322	45.9	44.9	55.0	34.0	57	37	.01	W	134	7	Overcast.
8	30.352	43.6	43.1	45.5	35.5	53	38	.....	S W	75	7	Thick fog.
9	30.138	45.4	44.0	47.0	43.5	46	41	.....	S S W	104	10	Overcast.
10	30.254	45.5	45.0	52.5	37.5	65	37	.....	S W	42	4	Fine.
11	30.435	40.5	39.8	46.0	34.0	63	34	.....	S W	37	7	Foggy; fair.
12	30.457	44.0	42.6	44.5	39.0	45	40	.....	S W	44	10	Overcast.
13	30.295	43.3	41.5	45.0	41.5	46	40	.....	S W	59	10	Overcast.
14	30.011	45.2	43.4	48.5	42.0	45	40	.....	W S W	108	10	Overcast.
15	29.903	49.4	48.1	51.0	47.5	51	44	.01	W S W	117	10	Overcast; damp.
16	29.911	48.9	47.5	54.0	45.0	62	43	.....	W	149	8	Fair.
17	29.961	51.9	50.1	54.0	49.0	64	45	.....	W	194	9	Fair.
18	29.836	44.4	43.4	50.0	35.5	57	36	.09	W S W	140	5	Fair; rain.
19	29.910	37.0	36.5	44.0	31.5	62	30	.....	W	77	3	Very fine.
20	29.768	43.1	43.0	50.0	38.5	48	37	0.19	W	213	5	Variable.
21	29.910	51.0	48.8	52.0	48.0	57	45	.....	W	355	10	Overcast.
22	30.073	52.6	50.8	53.5	50.0	58	48	.....	W	320	10	Cloudy.
23	30.209	50.3	47.9	53.0	46.5	56	44	.....	W	183	8	Fair.
24	30.145	49.3	46.6	51.0	46.0	61	43	.....	W	187	9	Fair.
25	30.198	44.1	42.2	53.0	38.0	63	38	.....	W N W	81	5	Dull; fine.
26	30.198	43.4	40.3	46.5	35.5	47	40	.....	N W	37	10	Cloudy.
27	30.258	38.0	36.7	44.5	32.0	51	32	.....	N W	39	8	Fog; fair.
28	30.313	43.1	42.3	45.0	38.5	48	37	.....	N W	72	9	Thick fog; fair.
29	30.371	39.0	39.1	43.0	35.0	45	36	.....	W N W	49	10	Fog; overcast.
30	30.375	38.6	38.3	43.0	31.0	45	35	.....	W S W	61	10	Foggy.
31	30.317	36.6	35.8	38.5	31.0	49	31	.....	W S W	43	5	Fog; fair.
Mean or Sum	30.100	45.3	44.0	49.3	40.2	55.4	39.4	0.66	S74°W	3635	7.3	

Moon's Phases, &c.

7^d 19^h Last Quarter.23^d19^h First Quarter.

13 20 Apogee.

29

5 Perigee.

15 23 New.

30

10 Full.

Day	h.		Day	h.	
16	8	A remarkable meteor was seen. It appeared first in the Zenith and descended eastward. Its size was apparently equal to that of the Moon; its colour, a pale blue. Its course when first seen was spiral, then, a tail shooting out, it	17	16	descended in a straight line and exploded at about 20° above the eastern horizon. At the time of its appearance the sky was partially covered with grey clouds.
			28	10	Aurora Borealis. Lunar halo.

SUMMARY OF THE RESULTS IN 1857.

Month.	Barometer.			Thermometers.						Rain.		
				Dry.			Wet.					
	Normal Value.	Probable Excess.	Excess in 1857.	Normal Value.	Probable Excess.	Excess in 1857.	Normal Value.	Probable Excess.	Excess in 1857.	Normal Value.	Probable Excess.	Excess in 1857.
	Inches.	Inches.	Inches.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Inches.	Inches.	Inches.
January	29.721	+ .107	— .132	37.7	+ 2.6	— 1.3	36.5	+ 3.4	— 0.4	1.99	+ 0.75	+ 1.19
February	.700	.113	+ .191	38.6	2.4	+ 1.0	36.9	2.8	+ 1.1	1.83	.69	— 1.51
March...	.690	.118	— .039	41.4	2.1	+ 0.4	38.7	2.1	+ 2.2	1.81	.68	— 0.27
April ....	.700	.110	— .117	46.0	1.8	— 0.5	42.6	1.7	+ 0.2	1.94	.73	+ 0.08
May .....	.733	.085	+ .001	52.4	1.7	+ 0.1	49.0	1.7	+ 0.1	2.17	.81	— 0.98
June ....	.725	.059	+ .065	58.6	1.6	+ 2.4	55.2	1.7	+ 0.8	2.34	.88	+ 0.70
July .....	.721	.047	+ .071	61.4	1.4	+ 1.5	57.7	1.4	+ 0.4	2.51	.94	+ 0.66
Aug. ....	.730	.059	+ .056	59.7	1.3	+ 3.9	55.8	0.9	+ 3.7	2.63	.99	+ 1.05
Sept. ....	.718	.084	+ .006	55.1	1.3	+ 3.2	51.6	0.9	+ 4.1	2.67	1.00	+ 1.22
Oct. ....	.684	.104	— .044	49.3	1.7	+ 3.2	46.8	1.5	+ 3.9	2.63	0.99	+ 1.94
Nov. ....	.677	.111	+ .221	43.5	2.1	+ 2.0	41.9	2.5	+ 2.6	2.47	.93	— 0.80
Dec. ....	.707	.107	+ .393	39.3	2.5	+ 6.0	38.0	3.4	+ 6.0	2.23	.84	— 1.57
Year	29.709	+ .028	+ .056	48.6	+ 0.6	+ 1.8	45.9	+ 0.7	+ 2.1	27.22	+ 3.09	+ 1.71
Winter ..	.709	.063	+ .051	38.5	1.4	+ 1.9	37.1	1.8	+ 2.2	6.05	1.32	— 1.89
Spring ..	.708	.060	— .052	46.6	1.1	0.0	43.4	1.1	+ 0.8	5.92	1.28	— 1.17
Summer	.725	.032	+ .064	59.9	0.8	+ 2.6	56.2	0.8	+ 1.6	7.48	1.63	+ 2.41
Autumn	.693	.058	+ .061	49.3	1.0	+ 2.8	46.8	0.9	+ 3.5	7.77	1.69	+ 2.36

EXTREMES AND RANGE OF THE BAROMETER IN 1857.

Month.	Normal Maximum.	Excess in 1857.	Normal Minimum.	Excess in 1857.	Normal Range.	Probable Excess.	Excess in 1857.
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
January	30.281	— 0.078	28.966	— 0.270	1.315	+ 0.196	+ 0.192
February .....	.350	+ .053	29.016	+ .221	1.334	.241	— .168
March .....	.313	+ .075	.087	— .277	1.226	.264	+ .352
April .....	.228	— .110	.148	— .395	1.080	.213	+ .285
May .....	.130	— .054	.201	— .056	0.929	.153	+ .002
June .....	.032	+ .157	.287	+ .021	0.745	.120	+ .136
July .....	.025	+ .137	.324	+ .098	0.701	.148	+ .039
August .....	.165	— .025	.244	+ .206	0.921	.195	— .231
September ...	.310	— .078	.063	+ .160	1.247	.220	— .238
October .....	.294	— .246	28.926	— .286	1.368	.227	+ .040
November ....	.182	+ .403	.903	+ .135	1.279	.195	+ .268
December ....	.173	+ .349	.931	+ .561	1.242	.180	— .212

EXTREMES AND RANGE OF THERMOMETER IN 1857.

Month.	Normal Max.	Excess in 1857.	Normal Min.	Excess in 1857.	Normal Monthly Range.	Probable Excess.	Excess in 1857.	Normal. Daily Range.	Probable Excess.	Excess in 1857.
	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.	Deg.
Jan.	53.0	— 2.5	22.2	— 3.2	30.8	+ 4.4	+ 0.7	9.7	+ 1.0	+ 0.6
Feb.	54.0	0.0	22.8	— 0.8	31.2	4.7	+ 0.8	11.8	1.6	+ 1.3
March....	59.0	+ 2.0	23.9	+ 2.1	35.1	4.6	— 0.1	15.3	2.0	— 2.1
April	65.9	+ 0.1	26.6	+ 0.9	39.3	4.1	— 0.8	18.1	1.9	— 3.1
May	72.7	+ 0.3	32.2	— 1.7	40.5	3.7	+ 2.0	18.2	1.5	+ 0.3
June	78.0	+ 7.0	39.5	— 1.0	38.5	3.6	+ 8.0	17.0	1.3	+ 3.7
July	80.6	— 0.6	44.0	+ 1.5	36.6	3.7	— 2.1	16.7	1.4	+ 0.2
August..	78.6	+ 4.4	42.6	+ 5.4	36.0	3.6	— 1.0	17.4	1.5	— 0.1
Sept.	72.1	+ 3.9	36.6	+ 6.4	35.5	3.3	— 2.5	16.7	1.5	— 2.7
October.	64.6	+ 1.4	29.7	+ 4.3	34.9	3.1	— 2.9	14.0	1.1	— 1.8
Nov.	59.1	+ 1.9	24.9	+ 5.1	34.2	3.1	— 3.2	11.1	0.7	— 0.9
Dec.	55.1	+ 0.9	22.5	+ 8.5	32.6	3.7	— 7.6	9.6	0.6	— 0.5

DIRECTION AND INTENSITY OF THE WIND IN 1857, COMPARED WITH THE
VALUES DEDUCED FROM 25 YEARS' OBSERVATION.

Month.	Direction of Wind, reckoned from N. towards E.			Intensity.		$\frac{W}{E}$		$\frac{S}{N}$	
	Normal.	1857.	Excess in 1857.	Normal.	1857.	Normal.	1857.	Normal.	1857.
	0	0	0	0	0	0	0	0	0
January ...	230	279	+ 49	.167	.279	1.49	9.00	1.42	0.83
February ..	242	190	— 52	.337	.359	2.27	1.22	1.60	2.80
March.....	259	224	— 35	.147	.158	1.56	1.67	1.04	2.00
April	342	205	— 137	.074	.185	1.02	2.20	0.83	1.71
May	339	54	+ 75	.078	.249	1.06	0.54	0.81	0.71
June	244	59	+ 175	.289	.118	2.34	0.90	1.55	1.23
July	248	242	— 6	.383	.800	3.12	inf.	1.74	9.00
August	247	267	+ 20	.383	.223	3.05	1.75	1.75	0.55
September	241	206	— 35	.191	.206	1.68	2.17	1.26	2.43
October....	239	226	— 13	.309	.102	2.42	1.26	1.75	1.20
November.	222	59	+ 197	.292	.591	1.93	0.33	1.95	0.40
December.	227	254	+ 27	.259	.830	1.92	inf.	1.77	2.67
Year.....	244	238	— 6	.219	.174	1.86	1.92	1.40	1.32

PRESSURE OF DRY AIR UNDER DIFFERENT WINDS.

NORTH.						NORTH EAST.					
Mean Date.	Mean Barom.	Force of Vapour.	Reduction to Annual Pressure.	Mean Ann. Pressure of Dry Air	No. of Obs.	Mean Date.	Mean Barom.	Force of Vapour.	Reduction to Annual Pressure.	Mean Ann. Pressure of Dry Air	No. of Obs.
1857.	Inches.	Inches.	Inches.	Inches.		1857.	Inches.	Inches.	Inches.	Inches.	
Jan. 17	29.64	— .20	— .09	29.35	10	Jan. 16	29.25	— .23	— .09	28.93	3
Feb. ...	.....	.....	.....	.....	...	Feb. 8	29.89	— .16	— .08	29.65	4
March 19	29.80	— .21	— .06	29.53	5	March 11	30.06	— .25	— .06	29.75	4
April 27	29.87	— .19	— .03	29.65	6	April 26	29.82	— .19	— .03	29.60	6
May 17	29.81	— .30	.00	29.51	7	May 14	29.81	— .27	.00	29.54	16
June 15	29.89	— .37	+ .09	29.61	6	June 17	29.92	— .37	+ .09	29.64	11
July 1	29.74	— .36	+ .11	29.49	1	July ...	.....	.....	.....	.....	...
Aug. 20	29.91	— .41	+ .08	29.58	8	Aug. 23	29.85	— .46	+ .07	29.46	7
Sept. 18	30.12	— .36	+ .04	29.80	2	Sept. 20	30.10	— .36	+ .04	29.78	4
Oct. 18	29.62	— .31	+ .02	29.33	5	Oct. 20	29.70	— .36	+ .02	29.36	10
Nov. 13	30.02	— .27	.00	29.75	5	Nov. 13	30.02	— .28	.00	29.74	17
Dec. ...	.....	.....	...	.....	...	Dec. ...	... ..	.....	.....	.....	...
Mean ...	29.820	— .287	.000	29.533	55	Mean ...	29.869	— .303	+ .010	29.576	82
EAST.						SOUTH EAST.					
Mean Date.	Mean Barom.	Force of Vapour.	Reduction to Annual Pressure.	Mean Ann. Pressure of Dry Air	No. of Obs.	Mean Date.	Mean Barom.	Force of Vapour.	Reduction to Annual Pressure.	Mean Ann. Pressure of Dry Air	No. of Obs.
1857.	Inches.	Inches.	Inches.	Inches.		1857.	Inches.	Inches.	Inches.	Inches.	
Jan. ...	.....	.....	.....	.....	...	Jan. 31	29.66	— .15	— .08	29.43	1
Feb. 12	29.84	— .21	— .08	29.55	4	Feb. 16	29.83	— .22	— .08	29.53	2
March 19	29.76	— .27	— .06	29.43	5	March 19	29.68	— .27	— .06	29.35	4
April 17	29.40	— .22	— .04	29.14	3	April 11	29.55	— .28	— .04	29.23	7
May 20	29.76	— .34	.00	29.42	4	May 25	29.39	— .36	+ .02	29.05	4
June 17	29.97	— .37	+ .09	29.69	9	June 17	29.87	— .38	+ .09	29.58	2
July ...	.....	.....	.....	.....	...	July ...	.....	.....	.....	.....	...
Aug. 25	29.68	— .48	+ .07	29.27	3	Aug. 24	29.65	— .55	+ .07	29.17	1
Sept. 23	29.75	— .38	+ .04	29.41	1	Sept. 18	29.66	— .46	+ .04	29.24	8
Oct. 22	29.60	— .36	+ .02	29.26	5	Oct. 17	29.36	— .36	+ .02	29.02	3
Nov. 14	29.94	— .27	.00	29.67	14	Nov. 2	29.51	— .39	+ .01	29.13	2
Dec. ...	.....	.....	.....	.....	...	Dec. ...	.....	.....	.....	.....	...
Mean ...	29.814	— .311	+ .009	29.512	48	Mean ...	29.594	— .350	.000	29.244	34

PRESSURE OF DRY AIR UNDER DIFFERENT WINDS.

SOUTH.						SOUTH WEST.					
Mean Date.	Mean Barom.	Force of Vapour.	Reduction to Annual Pressure.	Mean Ann. Pressure of Dry Air	No. of Obs.	Mean Date.	Mean Barom.	Force of Vapour.	Reduction to Annual Pressure.	Mean Ann. Pressure of Dry Air	No. of Obs.
1857.	Inches.	Inches.	Inches.	Inches.		1857.	Inches.	Inches.	Inches.	Inches.	
Jan. 17	30.13	— .28	— .09	29.76	1	Jan. 19	29.68	— .22	— .09	29.37	12
Feb. 15	29.73	— .24	— .07	29.42	8	Feb. 16	29.96	— .23	— .07	29.66	10
March 17	29.65	— .24	— .06	29.35	10	March 16	29.47	— .25	— .06	29.16	9
April 9	29.50	— .28	— .04	29.18	9	April 11	29.50	— .26	— .04	29.20	11
May 22	29.56	— .36	+ .01	29.21	4	May 19	29.67	— .37	.00	29.30	7
June 16	29.70	— .41	+ .09	29.38	5	June 13	29.62	— .40	+ .08	29.30	10
July 11	29.75	— .44	+ .12	29.43	2	July 18	29.81	— .43	+ .12	29.50	25
Aug. 15	29.76	— .49	+ .09	29.36	3	Aug. 13	29.95	— .48	+ .09	29.56	6
Sept. 15	29.68	— .45	+ .05	29.28	11	Sept. 13	29.63	— .40	+ .05	29.28	13
Oct. 20	29.82	— .39	+ .02	29.45	5	Oct. 12	29.76	— .36	+ .03	29.43	12
Nov. ...	.....	.....	.....	.....	...	Nov. 23	29.76	— .28	— .03	29.45	3
Dec. 4	29.86	— .31	— .05	29.50	3	Dec. 12	30.11	— .27	— .07	29.77	16
Mean ...	29.683	— .341	— .002	29.340	61	Mean ...	29.759	— .335	+ .010	29.434	134
WEST.						NORTH WEST.					
Mean Date.	Mean Barom.	Force of Vapour.	Reduction to Annual Pressure.	Mean Ann. Pressure of Dry Air	No. of Obs.	Mean Date.	Mean Barom.	Force of Vapour.	Reduction to Annual Pressure.	Mean Ann. Pressure of Dry Air	No. of Obs.
1857.	Inches.	Inches.	Inches.	Inches.		1857.	Inches.	Inches.	Inches.	Inches.	
Jan. 13	29.45	— .22	— .09	29.14	9	Jan. 9	29.65	— .21	— .09	29.35	8
Feb. 13	29.92	— .21	— .08	29.63	5	Feb. 27	30.26	— .23	— .07	29.96	2
March 13	29.53	— .24	— .06	29.23	8	March 16	29.65	— .21	— .06	29.38	4
April 14	29.45	— .23	— .04	29.18	8	April 29	29.89	— .21	— .02	29.66*	1
May 12	29.87	— .31	— .01	29.55	3	May 8	29.92	— .32	— .01	29.56	2
June 15	29.57	— .40	+ .09	29.26	3	June 21	29.77	— .41	+ .09	29.45	4
July 15	29.80	— .40	+ .13	29.53	21	July 20	29.83	— .36	+ .12	29.59	1
Aug. 7	29.74	— .46	+ .09	29.37	10	Aug. 17	29.73	— .42	+ .09	29.40	7
Sept. 11	29.80	— .40	+ .05	29.45	7	Sept. 25	29.70	— .39	+ .04	29.35	1
Oct. 12	29.56	— .33	+ .03	29.26	7	Oct. 15	29.20	— .30	+ .03	28.93	2
Nov. 22	29.64	— .30	— .03	29.31	3	Nov. 20	30.13	— .30	— .03	29.80	1
Dec. 17	30.05	— .28	— .07	29.70	20	Dec. 27	30.26	— .23	— .08	29.95	3
Mean ...	29.745	— .322	+ .009	29.432	104	Mean ...	29.780	— .299	— .006	29.475	36

TEMPERATURE UNDER DIFFERENT WINDS.

NORTH.					NORTH EAST.				
Mean Date.	Mean Temperature.	Reduction to Annual Temperature.	Mean Annual Temperature.	No. of Obs.	Mean Date.	Mean Temperature.	Reduction to Annual Temperature.	Mean Annual Temperature.	No. of Obs.
1857.	Deg.	Deg.	Deg.		1857.	Deg.	Deg.	Deg.	
January 17.	35.6	+ 11.2	46.8	10	January 16	38.7	+ 11.2	49.9	3
February...	.....	.....	.....	...	February 8	32.7	+ 9.8	42.5	4
March 19	37.7	+ 6.9	44.6	5	March 11	42.0	+ 8.0	50.0	4
April 27	41.5	— 0.4	41.1	6	April 26	39.8	+ 0.9	40.7	6
May 17	51.9	— 6.0	45.9	7	May 14	49.3	— 3.3	46.0	16
June 15	58.8	— 10.4	48.4	6	June 17	60.8	— 10.4	50.4	11
July 1	55.1	— 11.2	43.9	1	July ...	.....	.....	.....	...
August 20	62.5	— 12.3	50.2	8	August 23	65.0	— 10.7	54.3	7
Septem. 18	55.4	— 6.2	49.2	2	Septem. 20	56.0	— 6.2	49.8	4
October 18	48.6	+ 0.2	48.8	5	October 20	52.9	+ 0.2	53.1	10
Novem. 13	45.2	+ 5.8	51.0	5	Novem. 13	44.9	+ 3.8	48.7	17
Decem. ...	.....	.....	.....	...	Decem. ...	.....	.....	.....	...
Mean	48.1	— 0.9	47.2	55	Mean	49.8	— 1.1	48.7	82
EAST.					SOUTH EAST.				
Mean Date.	Mean Temperature.	Reduction to Annual Temperature.	Mean Annual Temperature.	No. of Obs.	Mean Date.	Mean Temperature.	Reduction to Annual Temperature.	Mean Annual Temperature.	No. of Obs.
1857.	Deg.	Deg.	Deg.		1857.	Deg.	Deg.	Deg.	
January ...	.....	.....	.....	...	January 31	33.5	+ 9.9	43.4	1
February 12	38.1	+ 9.7	47.8	4	February 16	40.2	+ 8.4	48.6	2
March 19	44.9	+ 6.9	51.8	5	March 19	45.0	+ 6.9	51.9	4
April 17	43.2	+ 2.3	45.5	3	April 11	49.3	+ 3.5	52.8	7
May 20	56.6	— 4.2	52.4	4	May 25	56.2	— 5.0	51.2	4
June 17	61.9	— 10.4	51.5	9	June 17	62.7	— 10.4	52.3	2
July ...	.....	.....	.....	...	July ...	.....	.....	.....	...
August 25	67.7	— 9.9	57.8	3	August 24	70.4	— 9.9	60.5	1
Septem. 23	57.0	— 5.3	51.7	1	Septem. 18	58.2	— 6.2	52.0	8
October 22	53.1	+ 0.2	53.3	5	October 17	54.0	— 1.2	52.8	3
Novem. 14	43.7	+ 5.8	49.5	14	Novem. 2	55.2	+ 3.6	58.8	2
Decem. ...	.....	.....	.....	...	Decem. ...	.....	.....	.....	...
Mean	50.6	+ 0.3	50.9	48	Mean	52.9	— 0.6	52.3	34

TEMPERATURE UNDER DIFFERENT WINDS.

SOUTH.					SOUTH WEST.				
Mean Date.	Mean Temperature.	Reduction to Annual Temperature.	Mean Annual Temperature.	No. of Obs.	Mean Date.	Mean Temperature.	Reduction to Annual Temperature.	Mean Annual Temperature.	No. of Obs.
1857.	Deg.	Deg.	Deg.		1857.	Deg.	Deg.	Deg.	
January 17	43.2	+ 11.2	54.4	1	January 19	37.0	+ 11.2	48.2	12
February 15	42.6	+ 9.6	52.2	8	February 16	41.2	+ 9.6	50.8	10
March 17	41.3	+ 6.9	48.2	10	March 16	42.8	+ 7.4	50.2	9
April 9	48.3	+ 4.1	52.3	9	April 11	46.3	+ 3.5	49.8	11
May 22	56.0	— 5.0	51.0	4	May 19	56.3	— 4.2	52.1	7
June 16	64.3	— 10.4	53.9	5	June 13	61.8	— 9.6	52.2	10
July 11	64.4	— 11.7	52.7	2	July 18	64.5	— 12.0	52.5	25
August 15	67.4	— 11.6	55.8	3	August 13	64.8	— 12.2	52.6	6
Septem. 15	59.7	— 7.0	52.7	11	Septem. 13	58.6	— 7.0	51.6	13
October 20	55.2	+ 0.2	55.4	5	October 12	53.7	— 2.2	51.5	12
Novem. ....	.....	.....	.....	...	Novem. 23	46.3	+ 7.3	53.6	3
Decem. 4	48.5	+ 7.7	56.2	3	Decem. 12	45.0	+ 8.3	53.3	16
Mean	52.2	+ 0.2	52.4	61	Mean	52.4	— 0.9	51.5	134
WEST.					NORTH WEST.				
Mean Date.	Mean Temperature.	Reduction to Annual Temperature.	Mean Annual Temperature.	No. of Obs.	Mean Date.	Mean Temperature.	Reduction to Annual Temperature.	Mean Annual Temperature.	No. of Obs.
1857.	Deg.	Deg.	Deg.		1857.	Deg.	Deg.	Deg.	
January 13	37.2	+ 12.5	49.7	9	January 9	35.6	+ 12.4	48.0	8
February 13	39.9	+ 9.5	49.4	5	February 27	39.9	+ 8.8	48.7	2
March 13	41.4	+ 7.4	48.8	8	March 16	37.0	+ 7.4	44.4	4
April 14	44.8	+ 3.5	48.3	8	April 29	42.6	— 0.4	42.2	1
May 12	53.3	— 3.3	50.0	3	May 8	52.7	— 2.6	50.1	2
June 15	61.0	— 10.4	50.6	3	June 21	60.3	— 10.7	49.6	4
July 15	64.1	— 12.0	52.1	21	July 20	65.6	— 12.3	53.3	1
August 29	61.9	— 9.2	52.7	10	August 17	61.4	— 11.6	49.8	7
Septem. 11	58.7	— 7.8	50.9	7	Septem. 25	55.7	— 5.3	50.4	1
October 12	52.1	— 2.2	49.9	7	October 15	48.9	— 1.2	47.7	2
Novem. 22	47.1	+ 7.3	54.4	3	Novem. 20	46.1	+ 7.3	53.4	1
Decem. 17	45.9	+ 9.3	55.2	20	Decem. 27	41.5	+ 10.8	52.3	3
Mean	51.6	0.0	51.6	104	Mean	47.8	+ 1.0	48.8	36

MEAN DAILY VELOCITY OF THE WIND, AND AMOUNT OF CLOUD UNDER
DIFFERENT WINDS IN 1857.

Date.	NORTH.			NORTH EAST.			EAST.			SOUTH EAST.		
	Wind.	Cloud.	Obs.	Wind.	Cloud.	Obs.	Wind.	Cloud.	Obs.	Wind.	Cloud.	Obs.
1857.	Miles.			Miles.			Miles.			Miles.		
January	145	8.2	10	163	7.3	3	...	...	...	86	4.0	1
February.....	...	...	...	77	8.2	4	83	9.0	4	66	7.0	2
March	110	6.2	5	162	4.8	4	125	8.8	5	91	7.8	4
April	104	8.8	6	117	8.7	6	130	9.0	3	98	8.0	7
May.....	117	7.6	7	116	6.7	16	69	6.3	4	88	7.5	4
June	121	7.0	6	108	4.2	11	64	2.7	9	46	5.0	2
July	136	10.0	1	...	...	...	...	...	...	...	...	...
August	95	6.3	8	99	7.0	7	54	2.7	3	36	5.0	1
September ...	70	8.0	2	77	7.0	4	72	3.0	1	50	8.5	8
October	91	8.6	5	66	8.2	10	80	9.0	5	97	8.0	3
November ...	72	6.8	5	61	8.0	17	68	8.4	14	58	7.5	2
December ....	...	...	...	...	...	...	...	...	...	...	...	...
Year	109	7.5	55	96	7.1	82	79	6.9	48	75	7.6	34
Winter	145	8.2	10	114	7.8	7	83	9.0	4	73	6.0	3
Spring	111	7.6	18	123	6.7	26	108	8.0	12	93	7.8	15
Summer	108	6.8	15	105	5.3	18	62	2.7	12	43	5.0	3
Autumn	80	7.7	12	65	8.0	31	71	8.3	20	62	8.2	13

Date.	SOUTH.			SOUTH WEST.			WEST.			NORTH WEST.		
	Wind.	Cloud.	Obs.	Wind.	Cloud.	Obs.	Wind.	Cloud.	Obs.	Wind.	Cloud.	Obs.
1857.	Miles.			Miles.			Miles.			Miles.		
January	132	9.0	1	132	6.4	12	157	5.4	9	161	8.8	8
February.....	100	7.0	8	108	7.1	10	147	6.8	5	58	4.5	2
March.....	103	6.1	10	206	7.8	9	223	6.6	8	149	5.2	4
April	97	9.2	9	120	7.2	11	142	6.6	8	92	9.0	1
May	77	6.0	4	111	5.7	7	116	6.7	3	49	10.0	2
June	74	5.6	5	125	6.8	10	96	8.0	3	56	7.8	4
July	102	7.5	2	121	6.8	25	130	6.9	21	164	5.0	1
August.....	45	5.3	3	62	4.5	6	71	6.5	10	61	7.4	7
September ...	57	7.6	11	65	6.8	13	78	6.4	7	49	9.0	1
October	56	8.0	5	84	6.8	12	127	8.0	7	111	8.5	2
November....	...	...	...	121	8.7	3	87	9.0	3	36	10.0	1
December	121	3.1	3	92	6.8	16	143	6.9	20	49	9.0	3
Year	84	7.0	61	112	6.8	134	132	6.8	104	96	7.8	36
Winter	108	6.2	12	109	6.8	38	148	6.5	34	119	8.2	13
Spring	96	7.3	23	146	7.0	27	172	6.6	19	112	7.1	7
Summer	71	5.9	10	113	6.5	41	110	6.9	34	68	7.3	12
Autumn.....	57	7.7	16	79	7.0	28	100	7.5	17	77	9.0	4

FALL OF RAIN UNDER DIFFERENT WINDS.

Mean Date.	N.		NE.		E.		SE.		S.		SW.		W.		NW.		Sum.	
	Fall.	Days	Fall.	Days	Fall.	Days	Fall.	Days	Fall.	Days	Fall.	Days	Fall.	Days	Fall.	Days	Fall.	Days
	In.		In.		In.		In.		In.		In.		In.		In.		In.	
1857.																		
Jan.	0.96	3.5	0.24	1.5	0.00	0.0	0.00	0.0	0.00	0.0	0.78	6.0	0.53	4.0	0.66	3.0	3.17	18
Feb.	.00	0.0	.00	0.0	0.01	1.0	.07	1.0	.15	3.0	.08	2.0	.01	1.0	.00	0.0	0.32	8
March	.02	0.5	.04	1.0	.27	3.0	.25	1.0	.47	4.5	.34	3.5	.16	1.5	.00	0.0	1.55	15
April	.19	2.0	.01	1.0	.05	0.5	.54	2.0	.47	2.0	.30	2.0	.46	3.5	.00	0.0	2.02	13
May	.32	1.0	.31	2.0	.07	0.5	.33	2.0	.00	0.0	.04	1.0	.00	0.0	.12	0.5	1.19	7
June	.35	1.0	.45	1.5	.09	0.5	.40	0.5	.51	2.0	.34	3.5	.43	0.5	.47	1.5	3.04	11
July	.00	0.0	.00	0.0	.00	0.0	.00	0.0	.17	0.5	2.57	4.0	.43	2.5	.00	0.0	3.17	7
Aug.	.08	0.5	.00	0.0	.00	0.0	.00	0.0	.02	1.0	0.02	0.5	2.36	4.5	1.20	3.5	3.68	10
Sept.	.00	0.0	.00	0.0	.00	0.0	.31	2.5	1.14	5.0	1.31	5.5	0.77	3.0	0.35	1.0	3.88	17
Oct.	2.08	3.0	.20	2.5	.19	2.0	.53	1.5	0.14	1.5	0.35	2.5	0.80	3.0	.28	1.0	4.57	17
Nov.	0.13	1.0	.33	6.0	1.00	3.5	.05	2.0	0.00	0.0	.12	2.0	.03	2.0	.02	1.5	1.67	18
Dec.	.04	0.5	.04	0.5	.48	4.0	.10	1.0	.00	0.0	.00	0.0	.00	0.0	.00	0.0	0.66	6
Sum	4.17	13.0	1.62	16.0	2.16	15.0	2.58	13.5	3.07	19.5	6.25	32.5	5.98	25.5	3.10	12.0	28.92	147
Average fall per diem	.320	...	.101	...	.148	...	.191	...	.157	...	.192	...	.230	...	.258	...	.197	...

NORMAL MEAN TEMPERATURE OF EVERY 5 DAYS COMPARED WITH
THE SAME IN 1857.

Month.		Mean Temperature.		Excess in 1857.	Month.		Mean Temperature.		Excess in 1857.
		Normal	1857.				Normal	1857.	
		o	o	o			o	o	o
January	1—5	36.7	39.6	+ 2.9	July	5—9	60.0	57.3	— 2.7
	6—10	36.2	38.4	+ 2.2		10—14	60.3	65.5	+ 5.2
	11—15	36.1	34.8	— 1.3		15—19	60.6	65.0	+ 4.4
	16—20	37.4	39.7	+ 2.3		20—24	60.9	65.9	+ 5.0
	21—25	38.2	36.6	— 1.6		25—29	61.0	62.7	+ 1.7
	26—30	38.6	30.0	— 8.6		August	30—3	61.2	67.0	+ 5.8
February	31—4	38.7	31.2	— 7.5	4—8		61.0	59.8	— 1.2
	5—9	38.8	41.6	+ 2.8	9—13		60.8	63.9	+ 3.1
	10—14	38.9	38.9	0.0	14—18		60.2	61.8	+ 1.6
	15—19	39.0	42.6	+ 3.6	19—23		59.3	66.7	+ 7.4
	20—24	39.5	41.4	+ 1.9	24—28		58.5	63.4	+ 4.9
	March	25—1	39.8	42.4	+ 2.6	September	29—2	57.8	60.8	+ 3.0
2—6		40.0	43.1	+ 3.1	3—7		57.1	57.8	+ 0.7
7—11		40.6	36.2	— 4.4	8—12		56.4	59.0	+ 2.6
12—16		41.2	41.5	+ 0.3	13—17		55.6	62.8	+ 7.2
17—21		41.7	44.2	+ 2.5	18—22		54.8	56.1	+ 1.3
22—26		42.3	38.6	— 3.7	23—27		53.9	58.7	+ 4.8
April	27—31	43.0	45.4	+ 2.4	October	28—2	53.1	56.2	+ 3.1
	1—5	43.8	50.0	+ 6.2		3—7	52.1	50.7	— 1.4
	6—10	44.5	49.6	+ 5.1		8—12	50.8	54.5	+ 3.7
	11—15	45.1	39.6	— 5.5		13—17	49.8	54.4	+ 4.6
	16—20	46.3	50.1	+ 3.8		18—22	48.4	50.7	+ 2.3
	21—25	47.7	43.3	— 4.4		23—27	47.3	52.5	+ 5.2
May	26—30	49.0	40.6	— 8.4	November	28—1	45.8	47.8	+ 2.0
	1—5	50.2	42.6	— 7.6		2—6	45.0	53.7	+ 8.7
	6—10	51.2	46.7	— 4.5		7—11	43.9	45.4	+ 1.5
	11—15	51.9	58.3	+ 6.4		12—16	42.8	43.2	+ 0.4
	16—20	52.8	57.3	+ 4.5		17—21	42.0	45.8	+ 3.8
	21—25	53.6	54.6	+ 1.0		22—26	41.3	42.5	+ 1.2
June	26—30	55.0	55.8	+ 0.8	December	27—1	41.0	41.3	+ 0.3
	31—4	56.1	57.3	+ 1.2		2—6	40.9	48.6	+ 7.7
	5—9	57.4	60.8	+ 3.4		7—11	40.7	44.2	+ 3.5
	10—14	58.2	54.8	— 3.4		12—16	40.3	46.2	+ 5.9
	15—19	59.0	57.4	— 1.6		17—21	39.1	45.5	+ 6.4
	20—24	59.3	66.9	+ 7.6		22—26	38.5	47.9	+ 9.4
July	25—29	59.5	67.9	+ 8.4	27—31	37.8	39.1	+ 1.3	
	30—4	59.8	59.0	— 0.8					

TABLE SHOWING THE OSCILLATIONS OF THE BAROMETER, IN THE YEAR 1857,
AMOUNTING TO, OR EXCEEDING, 0.1 INCH.

Month.	Day and Hour.	Barom.	Wind.	Month.	Day and Hour.	Barom.	Wind.
1856.	d. h.	Inches.		1857.	d. h.	Inches.	
December ...	30 14	30.45	W S W	March.....	18 4	29.54	S S E
1857.					21 10	29.88	N E
January	3 6	28.78	W		24 18	29.19	E N E
	7 10	30.21	N N W		27 10	29.85	N
	10 16	28.70	N E		30 6	28.92	W S W
	11 12	29.17	N N E		31 20	29.29	W S W
	12 4	28.91	N N W	April	1 20	28.84	E N E
	14 8	30.01	W S W		3 22	29.58	S S E
	15 2	29.79	S W		5 16	29.35	S E
	17 12	30.15	S W		7 10	29.78	S W
	18 18	30.02	S W		10 6	29.18	S S E
	19 6	30.14	W		11 8	29.37	S W
	20 10	29.12	S W		12 16	28.75	W S W
	21 22	29.69	N W		17 20	29.76	S S E
	23 18	28.89	W S W		18 16	29.61	S S E
	26 22	29.75	N		20 22	30.12	N
	28 10	29.62	N		22 4	29.76	N
	29 12	29.74	W S W		23 16	29.88	N E
	30 12	29.38	S		25 6	29.44	E N E
	31 22	29.78	S E		27 20	29.92	N
February.....	2 6	29.28	S E		28 4	29.83	N
	4 10	30.10	N E	May	5 20	30.08	N N E
	9 14	29.24	S S E		10 18	29.46	N N E
	12 10	30.21	W S W		12 22	29.89	S W
	17 18	29.76	S S E		14 4	29.75	E
	21 12	30.10	S W		15 22	29.96	N W
	22 6	29.99	S S E		21 2	29.45	W S W
	23 0	30.12	N N E		... 20	29.68	S W
	24 18	29.95	S S E		23 16	29.24	S S E
	28 22	30.40	N N E		24 10	29.39	S
March.....	4 4	29.86	W S W		25 8	29.15	E N E
	... 22	30.22	W S W		31 12	29.89	E
	8 2	29.28	W S W	June	2 6	29.64	S S E
	9 14	29.89	N W		4 10	29.92	S
	10 22	29.71	N		7 10	29.45	S W
	11 22	29.86	S S W		8 22	29.61	S W
	13 22	28.85	W S W		10 2	29.34	W S W
	14 6	29.01	W S W		12 20	30.12	S S E
	... 12	28.81	W S W		15 4	29.71	E N E
	16 12	29.81	S		17 22	30.02	N E

TABLE SHOWING THE OSCILLATIONS OF THE BAROMETER, IN THE YEAR 1857,
AMOUNTING TO, OR EXCEEDING, 0.1 INCH.

Month.	Day and Hour.	Barom.	Wind.	Month.	Day and Hour.	Barom.	Wind.
1857.	d. h.	Inches.		1857.	d. h.	Inches.	
June	20 14	29.71	SE	September ...	30 4	29.75	SSE
	24 22	30.20	E	October	1 22	30.02	W
	30 4	29.31	WSW		5 16	29.45	SSW
July	2 2	29.85	NW		6 8	29.56	WSW
	5 16	29.42	WSW		8 0	28.64	NE
	7 22	29.78	WNW		12 22	30.05	SSW
	9 6	29.69	W		18 10	29.26	ENE
	12 22	30.16	WSW		19 22	29.69	ENE
	16 2	29.65	W		22 6	29.46	N
	18 10	30.02	WSW		23 22	29.98	E
	19 18	29.76	WSW		26 18	29.50	ENE
	20 22	29.88	WSW		28 10	29.83	SW
	22 4	29.74	WSW		29 20	29.56	WSW
	... 22	29.81	WSW		30 22	29.93	WSW
	24 18	29.51	WSW	November ...	2 16	29.46	SSE
	26 10	29.78	S		11 22	30.58	ENE
	27 16	29.64	?		14 14	30.03	NE
	28 22	29.98	NNW		... 22	30.16	NE
	30 6	29.80	WSW		17 2	29.92	NE
August	2 2	29.91	WSW		20 22	30.16	W
	3 16	29.68	S		23 20	29.04	W
	4 10	29.75	W		25 10	29.45	ENE
	7 8	29.45	WSW		... 18	29.34	ENE
	11 20	29.96	W		27 22	30.01	ENE
	14 8	29.49	WNW		30 18	29.61	ESE
	15 10	29.69	NNE	December ...	2 0	29.83	WNW
	... 18	29.62	N		3 4	29.49	SSW
	20 10	29.98	NE		7 22	30.50	WNW
	23 16	29.52	ENE		9 16	30.12	SSW
	26 20	30.14	WSW		12 2	30.52	WSW
September ...	3 4	29.29	SSE		15 2	29.86	W
	6 22	29.71	WSW		17 20	29.96	W
	8 6	29.22	WSW		18 6	29.75	SSW
	10 0	29.53	WSW		19 8	29.98	WNW
	11 12	29.39	WSW		20 2	29.65	W
	19 14	30.23	NE		23 22	30.25	W
	24 18	29.59	SSE		24 18	30.06	W
	25 22	29.76	NW		25 16	30.23	WNW
	27 4	29.60	WSW		26 4	30.16	NW
	29 10	29.92	S		30 10	30.40	WSW

TABLE SHOWING THE CHANGES IN THE DIRECTION OF THE WIND,
AMOUNTING TO 45°. FROM 1856 DECEMBER 31 TO 1857 DECEMBER 31.

Month.	Period.		Duration.	Direction of Wind.	Direction and Amount of Change.	Distance travelled.
1856.	d. h.	d. h.	h.		°	Miles.
December....	31 12	to 2 12	48	W	.....	434
1857.						
January	2 12	2 20	8	S	— 90	49
	2 20	3 22	26	W	+ 90	446
	3 22	4 6	8	N N W	+ 67.5	62
	4 6	4 10	4	S E	+ 157.5	40
	4 10	5 6	20	W	+ 135	253
	5 6	9 0	90	N N W	+ 67.5	500
	9 0	9 10	10	W N W	— 45	77
	9 10	10 14	28	N	+ 67.5	214
	10 14	11 22	32	N E	+ 45	170
	11 22	12 10	12	N N W	— 67.5	32
	12 10	14 16	54	W S W	— 90	180
	14 16	15 2	10	S S W	— 45	34
	15 2	15 16	14	W S W	+ 45	36
	15 16	18 18	74	S S ₂ W	— 45	424
	18 18	19 12	18	W	+ 67.5	58
	19 12	19 22	10	S S W	— 67.5	56
	19 22	21 12	38	W S W	+ 45	162
	21 12	21 22	10	N W	+ 67.5	25
	21 22	23 22	48	S W	— 90	417
	23 22	29 2	124	N?	+ 135?	792
	29 2	30 4	26	W S W	— 112.5?	102
	30 4	30 10	6	S	— 67.5	27
	30 10	31 2	16	W S ₂ W	+ 67.5	62
	31 2	1 0	22	S E	+ 247.5?	76
February	1 0	1 14	14	N	— 135	38
	1 14	2 8	18	S E	+ 135	84
	2 8	2 22	14	E N E	— 67.5	108
	2 22	4 22	48	N E	— 22.5	171
	4 22	7 4	54	S W	— 180	326
	7 4	9 14	58	S S E	— 67.5	383
	9 14	11 8	42	W S W	+ 90	347
	11 8	11 14	6	N N W	+ 90	32
	11 14	13 22	56	W S W	— 90	308

TABLE OF THE CHANGES OF THE WIND (*continued.*)

Month.	Period.		Duration.	Direction of Wind.	Direction and Amount of Change.	Distance travelled.
1857.	d. h.	d. h.	h.		°	Miles.
February	13 22	to 14 16	18	S	— 67.5	30
	14 16	15 10	18	E N E	— 112.5	104
	15 10	18 0	62	S S E	+ 90	145
	18 0	18 6	6	W S W	+ 90	29
	18 6	19 0	18	S S W	— 45	19
	19 0	19 20	20	E N E	— 135	25
	19 20	20 20	24	S S W	+ 135	71
	20 20	21 6	10	W S W	+ 45	65
	21 6	21 18	12	S	— 67.5	55
	21 18	22 2	8	W S W	+ 67.5	46
	22 2	22 22	20	S S E	— 90	54
	22 22	23 14	16	N N E	— 135	31
	23 14	24 22	32	S E	+ 112.5	73
	24 22	26 4	30	N W	+ 180	73
	26 4	26 12	8	W S W	— 67.5	17
	26 12	27 0	12	S	— 67.5	26
	27 0	28 4	28	S W	+ 45	137
	28 4	28 20	16	N W	+ 90	19
	28 20	3 8	60	N E	+ 90	214
March	3 8	4 6	22	W S W	+ 202.5	165
	4 6	4 18	12	N W	+ 67.5	50
	4 18	8 12	90	W S W	— 67.5	733
	8 12	10 20	56	N N W	+ 90	288
	10 20	11 18	22	S S E	+ 180	64
	11 18	12 10	16	W S W	+ 90	61
	12 10	13 18	32	S S E	— 90	249
	13 18	16 6	60	W S W	+ 90	887
	16 6	18 16	58	S S E	— 90	166
	18 16	19 0	8	N N W	+ 180	34
	19 0	19 8	8	N E	+ 67.5	18
	19 8	20 0	16	E S E	+ 67.5	43
	20 0	21 14	38	N E	— 67.5	408
	21 14	22 6	16	N	— 45	122
	22 6	22 14	8	W N W	— 67.5	25
	22 14	23 4	14	W S W	— 45	89

TABLE OF THE CHANGES OF THE WIND (*continued.*)

Month.	Period.		Duration.	Direction of Wind.	Direction and Amount of Change.	Distance travelled.
1857.	d. h.	d. h.	h.		°	Miles.
March	23 4	to 24 2	22	S S E	— 90	78
	24 2	24 22	20	E N E	— 90	170
	24 22	25 6	8	S S E	+ 90	40
	25 6	25 22	16	S W	+ 45	79
	25 22	26 6	8	N W	+ 90	20
	26 6	27 22	40	N	+ 45	51
	27 22	28 14	16	E	+ 90	70
	28 14	29 18	28	S S E	+ 67.5	110
	29 18	1 2	56	W S W	+ 90	390
April	1 2	1 6	4	S S E	— 90	24
	1 6	1 22	16	E N E	— 90	100
	1 22	2 4	6	W S W	+ 180	65
	2 4	2 20	16	S S E	— 90	49
	2 20	3 18	22	S W	+ 67.5	80
	3 18	5 22	52	S E	— 90	135
	5 22	8 10	60	S W	+ 90	294
	8 10	9 8	22	S S E	— 67.5	80
	9 8	9 22	14	S W	+ 67.5	13
	9 22	10 8	10	S S E	— 67.5	19
	10 8	11 2	18	N N W	— 180	62
	11 2	15 10	104	W S W	— 90	692
	15 10	18 18	80	S S E	— 90	350
	18 18	20 20	50	W S W	+ 90	256
	20 20	21 6	10	N	+ 112.5	62
	21 6	22 4	22	W S W	— 112.5	141
	22 4	24 0	44	N E	+ 157.5	162
	24 0	24 10	10	S E	+ 90	23
	24 10	25 4	18	E	— 45	69
	25 4	26 10	30	N E	— 45	254
	26 10	26 20	10	N	— 45	64
	26 20	28 20	48	N N E	+ 22.5	162
	28 20	29 22	26	N	— 22.5	103
	29 22	1 4	30	N N E	+ 22.5	106
May	1 4	1 20	16	W S W	— 135	18
	1 20	11 16	236	N E	— 157.5	1275

TABLE OF THE CHANGES OF THE WIND (*continued.*)

Month.	Period.		Duration.	Direction of Wind.	Direction and Amount of Change.	Distance travelled.
1857.	d. h.	d. h.	h.		°	Miles.
May.....	11 16	to 13 0	32	S	+ 135	105
	13 0	14 20	44	E	- 90	129
	14 20	16 2	30	N N W	- 112.5	61
	16 2	20 16	110	W S W	- 90	596
	20 16	20 22	6	S S E	- 90	23
	20 22	22 0	26	S W	+ 67.5	72
	22 0	22 12	12	E	- 135	22
	22 12	23 0	12	N N E	- 67.5	55
	23 0	23 8	8	E N E	+ 45	36
	23 8	23 16	8	S E	+ 67.5	15
	23 16	24 6	14	W S W	+ 112.5	91
	24 6	24 16	10	S	- 67.5	5
	24 16	25 8	16	E N E	- 112.5	87
	25 8	27 18	58	S S E	+ 90	169
	27 18	31 0	78	N N E	- 135	376
	31 0	1 18	42	E N E	+ 45	129
June.....	1 18	2 18	24	S S E	+ 90	63
	2 18	4 6	36	W S W	+ 90	176
	4 6	4 22	16	S S E	- 90	52
	4 22	5 18	20	S S W	+ 45	60
	5 18	6 16	22	N	+ 157.5	47
	6 16	7 0	8	E	+ 90	20
	7 0	11 2	98	S W	+ 135	746
	11 2	11 22	20	N	+ 135	50
	11 22	12 18	20	E N E	+ 67.5	32
	12 18	13 8	14	S E	+ 67.5	35
	13 8	15 8	48	E N E	- 67.5	235
	15 8	19 20	108	N E	- 45	767
	19 20	20 14	18	S E	+ 90	32
	20 14	21 2	12	W S W	+ 112.5	34
	21 2	22 22	44	N W	+ 67.5	68
	22 22	27 0	98	E N E	+ 112.5	170
	27 0	27 16	16	W S W	+ 180	25
	27 16	28 2	10	S S E	- 90	24
	28 2	29 6	28	W S W	+ 90	134

TABLE OF THE CHANGES OF THE WIND (*continued.*)

Month.	Period.		Duration.	Direction of Wind.	Direction and Amount of Change.	Distance travelled.
1857.	d. h.	d. h.	h.		°	Miles.
June.....	29 6	to 30 0	18	S S E	— 90	70
	30 0	30 6	6	W	+ 112.5	18
	30 6	30 18	12	N W	+ 45	8
	30 18	2 2	32	N	+ 45	167
July	2 2	2 14	12	W S W	— 90	18
	2 14	2 20	6	S	— 67.5	12
	2 20	3 2	6	W S W	+ 67.5	24
	3 2	3 18	16	S S E	— 90	77
	3 18	4 6	12	W S W	+ 90	59
	4 6	4 12	6	S S E	— 90	18
	4 12	4 20	8	W S W	+ 90	17
	4 20	5 4	8	S	— 67.5	30
	5 4	14 18	230	W	+ 90	1060
	14 18	14 22	4	N	+ 90	9
	14 22	16 22	48	W?	— 90?	230
	16 22	18 20	46	W S W	— 22.5?	224
	18 20	19 18	22	S	— 67.5	74
	19 18	20 6	12	N	+ 180	78
	20 6	26 22	160	W S W	— 112.5	1108
	26 22	28 22	48	S W?	— 22.5	195
	28 22	2 14	112	W S W	+ 22.5	565
August.....	2 14	3 18	28	S	— 67.5	66
	3 18	5 12	42	W S W	+ 67.5	136
	5 12	6 22	34	N W	+ 67.5	98
	6 22	9 22	72	W	— 45	216
	9 22	11 22	48	W S W	— 22.5	110
	11 22	13 6	32	S	— 67.5	71
	13 6	14 8	26	N N W	+ 157.5	86
	14 8	15 0	16	W S W	— 90	40
	15 0	15 22	22	N N W	+ 90	71
	15 22	17 4	30	N?	+ 22.5?	223
	17 4	17 20	16	N N E	+ 22.5?	5
	17 20	18 22	26	N N W	— 45	63
	18 22	24 2	124	N E	+ 67.5	493
	24 2	24 20	18	S S E	+ 112.5	28

TABLE OF THE CHANGES OF THE WIND (*continued.*)

Month.	Period.		Duration.	Direction of Wind.	Direction and Amount of Change.	Distance travelled.
1857.	d. h.	d. h.	h.		°	Miles.
August	24 20	to 26 20	48	W S W	+ 90	97
	26 20	27 20	24	N N W	+ 90	42
	27 20	30 0	52	N N E	+ 67.5	217
	30 0	31 2	26	E	+ 45	32
	31 2	31 20	18	S S W	+ 112.5	21
September	31 20	2 16	44	W	+ 67.5	210
	2 16	3 22	30	S S E	- 112.5	68
	3 22	5 14	40	S W	+ 67.5	75
	5 14	5 20	6	S	- 45	20
	5 20	7 4	32	W S W	+ 67.5	88
	7 4	8 4	24	S	- 67.5	51
	8 4	8 14	10	W S W	+ 67.5	19
	8 14	9 16	26	S	- 67.5	81
	9 16	10 16	24	S W	+ 45	49
	10 16	11 20	28	W	+ 45	100
	11 20	12 20	24	S S E	- 112.5	42
	12 20	13 18	22	W S W	+ 90	40
	13 18	15 20	50	S	- 67.5	100
	15 20	16 22	26	S S W	+ 22.5	45
	16 22	17 20	22	W S W	+ 45	62
	17 20	19 0	28	N	+ 112.5	81
	19 0	22 20	92	N E	+ 45	285
	22 20	23 18	22	E	+ 45	66
	23 18	24 22	28	S S E	+ 67.5	85
	24 22	26 2	28	N W	+ 157.5	58
	26 2	26 6	4	S W	- 90	17
	26 6	26 16	10	S	- 45	46
	26 16	29 2	58	W S W	+ 67.5	176
	29 2	1 0	46	S S E	- 90	81
October	1 0	3 18	66	W S W	+ 90	344
	3 18	4 22	28	N	- 112.5	63
	4 22	5 4	6	W S W	- 112.5	47
	5 4	5 20	16	S S W	- 45	44
	5 20	6 18	22	W S W	+ 45	79
	6 18	7 20	26	S S E	- 90	164

TABLE OF THE CHANGES OF THE WIND (*continued.*)

Month.	Period.		Duration.	Direction of Wind.	Direction and Amount of Change.	Distance travelled.
1857.	d. h.	d. h.	h.		°	Miles.
October	7 20	to 8 2	6	NE	— 112.5	44
	8 2	8 16	14	WNW	— 112.5	70
	8 16	10 0	32	W	— 22.5	251
	10 0	10 14	14	WSW	— 22.5	52
	10 14	12 8	42	SW	— 22.5	73
	12 8	13 22	38	SSW	— 22.5	50
	13 22	17 0	74	NE	— 157.5	117
	17 0	18 0	24	SSE	+ 112.5	46
	18 0	19 22	46	ENE	— 90	146
	19 22	21 4	30	NNE	— 45	56
	21 4	22 10	30	NNW	— 45	168
	22 10	23 12	26	N	+ 22.5	142
	23 12	26 20	80	ENE	+ 67.5	284
	26 20	27 22	26	SSE	+ 90	88
	27 22	28 22	24	SW	+ 67.5	66
	28 22	31 2	52	WSW	+ 22.5	217
	31 2	31 22	20	S	— 67.5	66
	31 22	3 6	56	SSE	— 22.5	125
November	3 6	3 20	14	NE	— 112.5	108
	3 20	5 14	42	ENE	+ 22.5	91
	5 14	7 4	38	E	+ 22.5	52
	7 4	10 12	80	NNE	— 67.5	184
	10 12	20 2	230	NE	+ 22.5	644
	20 2	20 8	6	NNW	— 67.5	12
	20 8	20 22	14	W	— 67.5	16
	20 22	22 18	44	SW	— 45	156
	22 18	23 22	28	W	+ 45	144
	23 22	24 14	16	NNW	+ 67.5	27
	24 14	25 2	12	E	+ 112.5	53
	25 2	26 0	22	ENE	— 22.5	64
	26 0	26 4	4	ESE	+ 67.5	23
	26 4	26 22	18	WSW	+ 135	131
	26 22	1 8	106	E	+ 202.5	430
December	1 8	1 16	8	WSW	+ 157.5	23
	1 16	3 4	36	S	— 67.5	267

TABLE OF THE CHANGES OF THE WIND (*continued.*)

Month.	Period.		Duration.	Direction of Wind.	Direction and Amount of Change.	Distance travelled.
1857.	d. h.	d. h.	h.		°	Miles.
December	3 4	to 4 10	30	W	+ 90	199
	4 10	4 22	12	S W	— 45	24
	4 22	8 0	74	W	+ 45	314
	8 0	14 0	144	S W	— 45	369
	14 0	14 4	4	W	+ 45	24
	14 4	14 12	8	S S W	— 67.5	31
	14 12	17 20	80	W	+ 67.5	495
	17 20	18 6	10	S S W	— 67.5	70
	18 6	19 16	34	W	+ 67.5	126
	19 16	19 22	6	S S W	— 67.5	32
	19 22	30 6	248	W N W	+ 90	1553
	30 6	31 22	40	W S W	— 45	87

MEAN HOURLY VELOCITY OF THE WIND AT THE KEW OBSERVATORY,
FROM OBSERVATIONS MADE IN THE YEAR 1856,

By JOHN WELSH, Esq.

Hours reckoned from Noon.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Mean Hourly Velo- city.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
0—1	14.1	14.7	17.4	17.5	16.1	10.0	12.4	14.5	12.9	9.7	10.2	12.1	13.46
1—2	13.4	14.8	17.5	17.6	15.8	11.2	12.6	14.5	12.6	9.9	10.3	11.9	13.51
2—3	13.1	15.2	17.4	18.3	15.7	11.9	13.6	14.5	13.1	10.4	10.2	11.8	13.77
3—4	11.8	14.1	16.4	17.5	16.2	11.6	12.9	14.4	12.0	8.7	9.5	11.9	13.08
4—5	10.8	12.4	15.9	17.2	15.3	10.6	12.6	13.5	10.4	7.0	7.9	11.9	12.12
5—6	9.7	12.2	14.3	15.5	14.6	10.1	11.8	12.9	9.1	6.6	6.9	11.6	11.28
6—7	10.4	12.6	12.5	13.7	13.8	8.5	9.7	10.8	7.6	6.5	6.9	11.7	10.39
7—8	9.9	12.7	11.8	11.8	12.0	7.8	8.4	9.6	6.8	6.1	7.7	11.2	9.65
8—9	10.0	12.4	12.3	11.1	10.6	7.6	7.0	8.9	7.0	5.4	7.3	12.0	9.30
9—10	10.5	12.5	12.3	11.2	10.2	7.7	6.3	8.9	7.6	5.9	7.8	12.0	9.41
10—11	9.9	12.2	11.4	9.7	9.5	7.3	5.4	7.8	7.1	5.3	6.2	11.6	8.62
11—12	9.9	11.2	10.7	9.5	9.2	6.1	5.6	7.5	7.3	5.6	6.1	11.4	8.34
12—13	11.3	11.0	10.6	10.2	9.4	6.1	5.8	7.8	8.0	6.4	6.6	12.2	8.78
13—14	10.5	10.7	9.9	10.4	9.6	5.6	5.2	7.6	7.5	6.0	6.2	11.2	8.37
14—15	11.0	9.7	9.9	9.8	9.0	5.3	5.3	6.1	6.9	5.8	6.0	10.9	7.97
15—16	11.8	9.7	10.6	9.5	8.5	5.1	6.4	6.7	6.9	6.5	6.6	11.8	8.34
16—17	11.3	9.5	10.6	10.2	8.6	5.0	5.8	6.8	7.3	5.9	6.5	11.0	8.21
17—18	10.3	9.8	10.2	9.5	9.2	5.8	6.1	7.0	6.7	5.5	6.6	9.8	8.04
18—19	10.7	10.0	11.4	10.4	11.1	7.5	7.8	7.7	7.1	5.5	6.8	9.1	8.75
19—20	10.4	9.4	11.7	13.1	12.9	8.7	9.2	9.3	8.5	5.8	6.3	10.1	9.62
20—21	10.4	10.4	15.0	12.3	13.8	9.1	9.9	10.0	10.6	6.5	6.5	9.0	10.29
21—22	10.6	11.8	16.6	15.5	15.0	10.3	10.8	11.3	12.1	7.3	7.1	9.5	11.49
22—23	13.4	12.7	17.1	16.8	15.6	10.5	11.4	12.3	12.3	8.8	8.5	10.3	12.47
23—0	12.3	13.6	16.4	18.1	16.9	11.6	12.3	13.2	13.9	9.6	9.1	12.1	13.26
Monthly Mean Hourly Velocity.	11.14	11.89	13.32	13.18	12.44	8.37	8.93	10.15	9.22	6.95	7.66	11.17	10.36

MEAN HOURLY VELOCITY OF THE WIND AT THE KEW OBSERVATORY,
FROM OBSERVATIONS MADE IN THE YEAR 1857,

By JOHN WELSH, Esq.

Hours reckoned from Noon.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dcc.	Annual Mean Hourly Velo- city.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
0—1	13.1	13.0	16.7	13.7	14.6	16.0	13.4	11.6	10.1	11.2	9.5	12.3	12.93
1—2	14.2	13.8	16.0	13.8	14.9	16.1	13.9	11.6	10.6	11.0	10.0	12.4	13.19
2—3	14.1	12.6	15.6	13.1	15.1	15.6	13.7	12.0	10.9	10.5	9.4	11.1	12.81
3—4	12.5	11.5	15.2	14.0	15.6	16.1	14.0	11.7	10.0	9.7	7.8	10.2	12.36
4—5	10.8	10.7	14.5	13.7	15.4	15.6	14.0	12.1	10.3	8.9	8.9	10.1	12.08
5—6	11.6	9.7	13.2	12.8	13.1	14.6	12.6	10.3	8.2	8.0	7.7	9.9	10.97
6—7	11.5	7.9	12.5	9.9	11.5	13.0	11.2	8.9	6.4	8.1	6.4	9.4	9.72
7—8	11.9	8.0	11.2	9.3	9.5	11.9	8.7	7.4	5.8	8.9	6.9	9.8	9.11
8—9	11.7	8.2	10.7	8.4	8.2	8.7	7.2	6.1	5.5	7.9	6.3	9.1	8.17
9—10	12.5	7.9	10.4	8.0	7.6	8.4	6.6	5.7	5.3	7.1	6.2	8.8	7.87
10—11	11.7	8.0	10.7	8.7	8.1	8.2	7.0	6.7	5.4	7.5	8.0	9.4	8.28
11—12	11.3	7.4	9.6	7.1	6.7	8.0	6.3	6.2	5.2	6.2	7.6	8.0	7.47
12—13	12.7	7.2	10.4	7.8	6.3	7.5	6.0	6.2	5.3	6.4	7.7	8.0	7.62
13—14	11.7	7.0	9.8	7.8	6.5	6.6	6.1	5.9	5.6	7.0	7.9	8.8	7.56
14—15	11.7	7.1	9.2	6.8	5.8	6.1	6.2	5.9	5.4	6.3	7.5	8.3	7.19
15—16	11.6	7.1	8.7	6.4	5.7	6.5	6.7	5.4	5.3	6.2	8.0	8.2	7.15
16—17	10.8	6.6	9.3	6.7	6.7	6.6	6.1	5.8	5.2	6.9	8.2	8.7	7.30
17—18	10.2	6.0	9.2	6.8	7.2	6.7	6.6	5.7	5.1	5.8	7.9	8.4	7.13
18—19	10.3	6.5	9.9	7.9	8.7	9.1	7.9	6.9	5.0	6.5	7.6	8.9	7.93
19—20	11.1	6.8	11.0	10.1	10.1	10.2	9.6	7.9	6.0	7.2	8.4	9.1	8.96
20—21	11.4	7.1	11.7	11.8	11.5	10.9	10.5	9.0	7.0	7.6	9.1	9.4	9.75
21—22	11.8	8.4	13.8	12.6	11.3	12.1	11.7	10.0	8.5	8.6	8.1	9.1	10.50
22—23	13.2	10.2	15.9	13.7	13.9	14.5	13.4	10.6	10.1	10.8	10.2	11.0	12.29
23—0	14.9	11.3	16.3	13.5	14.3	15.1	13.0	11.2	10.2	11.1	10.1	11.7	12.72
Monthly Mean Hourly Velocity.	12.01	8.75	12.15	10.18	10.35	11.00	9.68	8.37	7.18	8.14	8.14	9.59	9.63

MEAN HOURLY VELOCITY OF THE WIND AT THE LIVERPOOL OBSERVATORY,
FROM OBSERVATIONS MADE IN THE YEAR 1857,

By JOHN HARTNUP, Esq.

Hours reckoned from Noon.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Annual Mean Hourly Velo- city.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
0—1	15.7	14.1	17.2	12.9	12.3	14.0	16.7	12.3	11.2	12.5	10.2	15.1	13.7
1—2	15.5	14.4	16.7	12.8	12.0	13.9	16.9	12.7	11.5	12.7	9.9	15.0	13.7
2—3	15.1	14.0	17.1	12.2	11.7	13.9	16.4	12.7	11.6	12.4	9.6	14.9	13.5
3—4	15.3	13.3	16.4	12.9	11.4	13.0	16.2	12.9	10.9	11.9	9.2	15.0	13.2
4—5	14.5	11.6	16.1	13.2	11.4	12.5	15.3	12.2	10.4	11.4	9.2	13.4	12.6
5—6	14.1	11.4	15.2	13.0	10.7	11.8	14.9	11.7	9.3	11.1	8.6	13.0	12.1
6—7	14.2	12.2	14.7	11.9	10.0	10.2	14.3	11.0	8.3	11.3	8.1	13.0	11.6
7—8	13.8	12.3	13.8	10.4	9.6	9.7	11.7	10.3	8.3	10.9	8.1	12.0	10.9
8—9	14.0	12.2	12.6	9.9	9.4	9.5	10.3	10.0	7.7	11.0	8.0	11.9	10.5
9—10	13.2	11.5	12.6	9.8	9.5	8.4	9.9	9.1	7.7	10.8	7.9	12.2	10.2
10—11	12.1	11.4	13.1	9.5	8.9	8.6	9.0	8.7	8.0	11.2	7.8	12.8	10.0
11—12	11.9	11.5	13.5	8.8	8.8	9.7	10.4	8.3	7.7	11.1	7.4	13.9	10.1
12—13	12.4	10.4	12.9	9.0	7.8	9.3	10.6	7.2	8.0	10.8	8.0	14.0	10.0
13—14	11.7	10.5	12.6	9.7	8.1	10.0	11.3	7.0	8.2	10.6	8.0	13.8	10.1
14—15	11.7	11.3	11.7	9.9	8.0	9.9	11.8	7.0	8.9	10.2	8.3	13.3	10.3
15—16	12.2	10.9	12.6	10.0	7.0	10.3	12.3	6.9	9.0	10.0	8.7	14.4	10.4
16—17	11.7	11.1	12.9	10.5	7.1	9.5	12.2	7.3	8.9	9.3	8.4	16.0	10.6
17—18	12.4	11.5	12.5	10.8	6.5	9.5	12.0	7.7	8.1	10.0	8.7	14.4	10.3
18—19	13.3	11.4	12.5	11.7	7.2	11.0	12.5	8.0	7.8	10.3	9.0	13.4	10.7
19—20	13.8	12.3	12.9	12.5	8.1	11.7	13.4	8.7	7.9	10.0	9.4	13.1	11.2
20—21	13.1	12.8	14.3	13.1	8.8	12.0	13.3	9.9	8.3	10.9	9.5	13.1	11.6
21—22	13.3	12.6	15.2	12.9	9.1	12.5	13.0	11.0	9.5	11.9	10.0	12.9	12.1
22—23	13.9	12.8	16.4	12.6	9.9	12.2	14.3	11.4	10.8	12.1	10.0	13.3	12.5
23—0	14.5	13.9	18.0	12.6	11.1	13.1	15.3	11.9	10.8	12.9	10.7	14.4	13.3
Monthly Mean Hourly Velocity.	13.1	12.1	14.4	11.3	10.1	11.1	13.2	9.8	9.1	11.2	8.9	13.7	11.5



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